

ORGANIZATION


HOW ARMIES ARE FORMED FOR WAR

California
National
Library

COLONEL HUBERT FOSTER
ROYAL ENGINEERS




THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA
LOS ANGELES



J. F. Morrison

1911



Digitized by the Internet Archive
in 2007 with funding from
Microsoft Corporation

ORGANIZATION



ORGANIZATION

HOW ARMIES ARE FORMED FOR WAR

BY

COLONEL HUBERT FOSTER

ROYAL ENGINEERS

LONDON

HUGH REES, LTD.

119 PALL MALL, S.W.

1911

(ALL RIGHTS RESERVED)

PRINTED AND BOUND BY
HAZELL, WATSON AND VINEY, LD.,
LONDON AND AYLESBURY.

P R E F A C E

THE Author was led to compile this account of Army Organization owing to his inability to discover any book dealing systematically with that subject. Military writers do, of course, make frequent allusions to Organization, but a previous acquaintance with the subject is generally assumed. One looks in vain for an explicit account, either of the principles underlying organization, or of the development of its forms and methods.

It is true that the word Organization figures in the title of more than one Military treatise, but the subject is handled unsystematically and empirically, so that the ordinary reader is unable to realize the significance of the facts. In some cases the term Organization is interpreted in so wide a sense as to include not only Tactics, Staff Duties, and Administration, but any matters of moment to an army. Thus, in the volume of essays recently published, an author of weight states that "Organization for War means thorough and sound preparation for war in all its branches," and goes on to say, "the raising of men, their physical and moral improvement . . . their education and training . . . are the fruits of a sound organization."

In the present work, Organization is taken in a more literal and limited sense. The book would otherwise have tended to become a discussion of every question affecting the efficiency of armies. The intention of the Author is to give in broad outline a general account of Organization for War, and of the psychological principles underlying the exercise of Command, which it is the main purpose of Organization to facilitate.

At the same time the organization discussed is not restricted to that of the British Army, but is that of modern armies in general, as well as of individual armies in particular, that of the British Army being described in greater detail, in Part II.

In Part IV. will be found a sketch of the History of Organization, which should interest any one who, like the Author, is not content with knowing things as they happen to be at present, unless he can trace the steps by which they came to be so.

The subject is intentionally not treated with minuteness of detail. To have made the book a cyclopædia of detailed information about organization would have obscured its purpose. It is hoped that the work may prove useful to the increasing numbers of those who have taken up Military work throughout the Empire, and not uninteresting to general readers, and students of history.

HUBERT FOSTER.

SYDNEY, *June* 1910.

CONTENTS

	PAGE
PREFACE	v
ABBREVIATIONS	xv
INTRODUCTION	xvii

PART I

WAR ORGANIZATION OF THE PRESENT DAY

CHAPTER I

THE OBJECT OF ORGANIZATION

Command	3
Definition of Organization	4
The Chain of Command	5
Units or Formations of Troops	6

CHAPTER II

THE FIGHTING TROOPS

The Arms of the Service	8
Characteristics of the Arms	8
1. Cavalry	9
2. Artillery	12
3. Engineers	13
4. Infantry	15

CHAPTER III

ORGANIZATION OF THE UNITS OF EACH ARM

PAGE

1. Infantry	17
2. Cavalry	21
3. Artillery	23
4. Engineers	30

CHAPTER IV

NEW VARIETIES OF FIGHTING TROOPS

1. Mounted Infantry	32
2. Mountain Infantry	33
3. Mountain Artillery	34
4. Machine Guns	34
5. Cavalry Pioneers	35
6. Cyclists and Motor Cars	36
7. Scouts	37
8. Field Orderlies	39
9. Military Police	39

CHAPTER V

FORMATIONS OF ALL ARMS

1. The Division	42
2. The Army Corps	44
3. Cavalry Corps	47
4. The Army as a Unit	48
The Administrative Services for the above	51

CHAPTER VI

THE STAFF

Composition of Head-Quarters	54
The General Staff	57
The Adjutant-General's Branch	59
The Quarter-Master-General's Branch	59
Staff of Subordinate Commands	60
Importance of the Staff	60
Number of Officers allotted to the Staff	61

CONTENTS

ix

CHAPTER VII

WAR ESTABLISHMENTS

	PAGE
Their Object and Utility	62
States and Returns	65
Reinforcements	66
Evils of Improvised Organizations	68
Importance of Preserving Original Organization	69
The <i>Ordre de Bataille</i>	71
Importance of keeping it Secret	72
Consequent drawbacks of Symmetry in Organization	72

PART II

BRITISH WAR ORGANIZATION

CHAPTER VIII

THE EXPEDITIONARY FORCE

Its Composition	78
Composition of Subordinate Commands	80
Strength of the Sub-Commands, and of Whole Force	83
Strength of Units of each Arm	85
Composition of their Head-Quarters	86

CHAPTER IX

THE EXPEDITIONARY FORCE (*continued*)

ADMINISTRATIVE SERVICES

Their Directors	88
Organization of the Lines of Communication	90
The Main Services, having Units with the Fighting Troops	92
1. Service of Inter-communication	92
2. Transport	97
3. Supply	101
4. The Medical Services	106

CONTENTS

CHAPTER X

THE EXPEDITIONARY FORCE (*continued*)

SERVICES ON THE LINES OF COMMUNICATION

	PAGE
5. The Veterinary Service	111
6. The Ordnance Service	112
7. The Railway Services	115
8. The Works Service	116
9. The Postal Service	117
10. The Accounts Department	118
11. The Records Branch	119
12. Depôts for Personnel	120

CHAPTER XI

The Territorial Force	121
The Army of India	122

CHAPTER XII

SPECIAL FEATURES OF BRITISH WAR ORGANIZATION

Their Object and Advantages	125
---------------------------------------	-----

PART III

ORGANIZATION OF FOREIGN ARMIES

CHAPTER XIII

WAR ORGANIZATION OF THE FIGHTING TROOPS

Normal War Organization	140
Organization of each Army	141
1. GERMANY	141
2. FRANCE	145
3. RUSSIA	147
4. AUSTRIA-HUNGARY	148
5. ITALY	150
6. JAPAN	151
7. SWITZERLAND	152
8. UNITED STATES	154

CONTENTS

xi

CHAPTER XIV

COMPOSITION OF NATIONAL ARMIES

	PAGE
Armies of First Line	155
Armies of Second Line	156
Reserves	158
War Strengths of the Various Powers	160

PART IV

HISTORY OF ORGANIZATION

INTRODUCTION	165
------------------------	-----

CHAPTER XV

ORGANIZATION IN THE SIXTEENTH CENTURY

Origin of Organization	167
Earliest Regimental Organization	171
The early Standing Armies of Europe	175

CHAPTER XVI

THE EVOLUTION OF INFANTRY

Early Origins—Pikes—Firearms	177
Infantry under Maurice of Nassau	180
Regiments—Brigades—Battalions	180
Infantry under Gustavus Adolphus	182
French Infantry in Reign of Louis XIV	184
Fusiliers—Grenadiers—Light Infantry	186

CHAPTER XVII

THE EVOLUTION OF CAVALRY

	PAGE
Early Origins	192
Origin of true Cavalry in the "Reiters"	193
Cuirassiers—Carbineers—Dragoons	194
Cavalry under Maurice—under Gustavus—under Crom- well—under Frederick	195
Light Horse—Hussars—Lancers	197
Cavalry Brigades—Divisions	198

CHAPTER XVIII

THE EVOLUTION OF ARTILLERY AND ENGINEERS

THE ARTILLERY	199
Early Origins—the Artillery Train	200
Battalion Guns—Heavy Guns	201
Improvement in Artillery Organization under Frederick	202
Horse Artillery—Batteries formed—Military Drivers	202
Divisional and Corps Artillery	203
THE ENGINEERS	204

CHAPTER XIX

ORGANIZATION IN THE SEVENTEENTH AND EIGHTEENTH
CENTURIES

The "New Model" Army	206
The Armies of the Eighteenth Century	210

CONTENTS

xiii

CHAPTER XX

ORGANIZATION IN THE NINETEENTH CENTURY

	PAGE
Changes in the Wars following the French Revolution	215
Divisions—Army Corps	215
Details of Napoleon's Organization	218
Composition and Strength of his Army Corps	219
Prussian Organization in the Nineteenth Century	221
Proportion of Cavalry and Guns to Infantry	223

CHAPTER XXI

THE EVOLUTION OF THE STAFF AND ADMINISTRATIVE SERVICES

1. The Staff	225
The General Staff	228
Napoleon's Staff	230
Prussian Staff in 1870	231
2. The Supply and Transport Services	232
3. The Medical Organization for War	234

PART V

MILITARY COMMAND

CHAPTER XXII

PRINCIPLES OF COMMAND

Mode of Exercising Command	239
Instructions—Orders	242
Limits of Initiative in Staff Officers	246

CHAPTER XXIII

PSYCHOLOGICAL CHARACTERISTICS OF ARMIES

	PAGE
The Dynamic Crowd	248
Its Qualities	250
Its Leaders	251
Armies Dynamic Crowds	252
Their Leaders	252
Will Power—Prestige	253

APPENDIX A

ORIGIN OF MILITARY TERMS	257
------------------------------------	-----

APPENDIX B

REMARKS ON MILITARY NOMENCLATURE	265
--------------------------------------------	-----

DIAGRAM OF FIELD ARMY	136
---------------------------------	-----

ERRATA

- Page 34, line 2, *for* "Mounted" *read* "Mountain."
,, 104, line 6, *for* "lb." *read* "oz." in two places.
,, 141, line 6, *for* "270" *read* "240."
,, 183, line 10, *for* "100" *read* "1000."

ABBREVIATIONS

A few abbreviations of familiar military terms have been used. These are :

A.G.	Adjutant-General.
Q.M.G.	Quarter-Master-General.
C.-in-C.	Commander-in-Chief.
A.D.C.	Aide de Camp.
N.C.O.	Non-Commissioned Officer.
Q.M.S.	Quarter-Master-Sergeant.
A.S.C.	Army Service Corps.
R.A.M.C.	Royal Army Medical Corps.
T. and S.	Transport and Supply.
L. of C.	Lines of Communication.

INTRODUCTION

THE Organization which it is the purport of this work to describe is that of Armies in War. The vast subject of Organization in Peace opens out too wide a field. It is necessarily different in every country, being based on national idiosyncrasies, complicated by political, economic, and topographical conditions. These factors, however dominating in peace, have less influence on organization for war. The general features of War Organization are identical in all modern armies, as they represent the consensus of expert opinion, based on the practice of great leaders, and on the lessons learnt from success and failure in recent wars.

There are, of course, many differences in detail, due to the varying historical development of each army. These really indicate the degree to which the conservative sentiments retarding improvement have been bent to the changes necessitated by progress. The strength of tradition and inertia in armies is enormous. No human institutions—not the Law, not even the Church—so cherish ceremonial and reverence tradition and custom, or remain so long blind to changed conditions. In

military arrangements the very object of their existence often seems obscured by a haze of unessential conventions. Military methods, once suitable, soon pass into mere forms, which it is considered sacrilegious to modify, however useless or even harmful they have become.

Among scores of examples of the extraordinary conservatism of military organization we may remember that England had no transport organized in the army she landed in the Crimea. We find in Germany Army Corps of two Divisions, Divisions of two Brigades, and Brigades of two Regiments, although two is the worst possible number of parts in a unit, according to Clausewitz and common sense. The twentieth century saw Cuirassiers in France, Rifles in most armies, and the "parade step" in Germany. The protean follies of uniform are only now partially disappearing.

The historical portion of this work shows the curious way in which a new form of organization, designed for a definite end, often loses sight of its purpose and reverts to a mere variety of the old type, which then has to put out a new development for the original end. This is the history of the numerous attempts to provide for Light Infantry duties at the front.

The above considerations account for a number of odd survivals in modern armies, and explain many differences in their organization. These, however, are always tending to diminish under the pressure of the hard facts of war, which have little respect for national prejudices and traditions.

A study of the present British war organization,

described in some detail in Part II., will show that it embodies a large number of the changes suggested by recent wars, and demanded by the trend of modern military thought. The British Army is the latest to be reorganized, and the opportunity has been taken, with no less courage than wisdom, to adopt in every Branch all changes tending to fit it better for the fighting of the immediate future, as far as this can be forecast. When the reorganization is completed it is not too sanguine to believe that the British will be the best organized army of the day.



PART I

WAR ORGANIZATION OF THE PRESENT DAY

CHAPTER I

THE OBJECT OF ORGANIZATION

COMMAND

IN the British Field Service Regulations of 1909, Part ii., chap. ii., par. 1, it is stated that the main object of War Organization is to provide the Commander-in-Chief of the Forces in the Field with the means of exerting the required influence over the work and action of every individual. This, it is pointed out, will ensure the "combination and unity of effort directed towards a definite object," on which mainly depends the successful issue of military operations. In other words, the primary object of War Organization is to facilitate *Command*—that is, to ensure that every man in the force acts promptly in response to the will of the Commander.

A secondary object of War Organization is to facilitate *Administration*, or the supply of each individual in the Force with all that he requires to make it possible for him not only to live, but to move and fight. If a Force be ill-organized the process of supply will be slow, uncertain, and incomplete, the spirit and health of the men cannot

fail to suffer, and the efficiency of the Force as a fighting body to be reduced.

Both these objects of Organization—*Command* and *Administration*—are, however, really inseparable. The channels through which they act are identical, and the Authority which commands is necessarily responsible for the Administration which enables his Orders to be carried out. Solicitude for the well-being of the soldier is one of the most certain means for obtaining influence over him, and may be called the main lever for exercising Command. Some further consideration of the psychological factors of Command, which are essentially germane to the study of Organization, will be found in Part V. of this work.

DEFINITION OF ORGANIZATION

The word "Organization"—literally, providing a body with organs—has been more elaborately defined, by Herbert Spencer, as "the bringing of independent bodies into independent relations with each other, so as to form a single organic whole in which they all work together." He goes on to explain this as follows: "In considering the evolution of living forms we find simple, homogeneous, and non-coherent elements developing into a complex, heterogeneous, and coherent whole, an organism controlled by unity of purpose, and comprising a number of functional parts, which work together in mutual dependence for the common good." This definition applies closely to the organization of military bodies. The elements are represented by the individual soldiers, the

functional parts by the units, while in the Army we see the living organism.

Just as in nature no mere assemblage of cells, or even of functional parts, can form a living organism, so no collection of individuals, however efficient—or of small units, however perfect—can in any true sense be called an Army. It might have the appearance of a real military force, but it would only be suited to peace. The means by which it can be made fit for war is *Organization*, without which it would be little better than an armed mob—inert, or at best irregular and spasmodic in its movements. An ill-organized army is not capable of co-ordinated or of sustained action, owing to the difficulty of either directing its movements or supplying its wants.

THE CHAIN OF COMMAND

It is obvious that a Commander of a Military Force cannot deal personally and directly with all those under his command, but only with a limited number of subordinate commanders. Each of the latter in his turn conveys his will to his own subordinates, and this gradually broadening system, called the *Chain of Command*, is carried on, till every individual of the Force receives his Orders. These Orders are founded on the original directions of the Commander-in-Chief, with modifications and details added by each lower authority in the chain, so as to suit the special circumstances of his own Command.

This principle combines unity of control with decentralization of command and devolution of

responsibility. In no other way can ready and effective co-operation of all fractions of the force to a common end be ensured.

UNITS OR FORMATIONS OF TROOPS

The method, generally speaking, of War Organization is to provide the links in the chain of Command by a systematic arrangement, in suitable groups, of the various troops composing the Army. The smallest groups, or *Units*, are combined in larger ones, and these again are built up into more complex bodies, and so on, until the whole Army is formed in a small number of large bodies, whose Commanders receive direct orders from the Supreme Commander.

For want of a general name for these bodies it is usual to speak of them all as *Formations*. The term *Units*, which is often used, properly applies only to the elementary groups. The largest Formations are conveniently styled the *Subordinate Commands* of the Army.

Each category of Formations forms a step in the pyramid of organization, in which the lowest layer is formed by the Units, the top layer by the Subordinate Commands, and the apex by the Supreme Commander. The Commanders of each Formation, from the largest to the smallest, form the successive links in the chain of Command.

All Formations should have such a strength and composition as to be in the best relation and proportion to each other, and to the larger groups which they help to build up. Every Formation should be formed of at least three subordinate Units.

THE OBJECT OF ORGANIZATION 7

This gives the Commander of the whole due importance over his Subordinate Commanders, and ensures his retaining an adequate Command whenever he wishes to detach one of his Units. This would not be the case were there only two Units in the whole, for, if one were detached, the Commander of the whole would be left exercising Command only over the other Unit, already adequately commanded. The Superior Commander would then be superfluous, and harmfully interfering with his subordinate. A Formation with three or more Units can be readily broken up when desired, without affecting the principles of Command, and is therefore more flexible and efficient than one with only two Units. Emphasis is laid on this point by Clausewitz in his classic work "On War."

It is the purpose of the next few chapters to describe the Units and Formations constituted in modern armies. But, in order to explain the reasons which have dictated their strength and composition, it is necessary first to describe the various kinds of Troops which go to make up an Army, and their respective methods of fighting, and functions in war. Organization exists to facilitate fighting, and cannot be explained without some discussion of Tactics.

CHAPTER II

THE FIGHTING TROOPS

MILITARY Forces are of two distinct categories: *Fighting Troops*, which carry out the actual operations; *Administrative Services*, whose function is to provide the Fighting Troops with all that they require to keep up their strength and efficiency.

THE ARMS OF THE SERVICE

The Fighting Troops consist mainly, as they have for centuries, of what are known as "The Three Arms of the Service"—Cavalry, Artillery, and Infantry. Besides these, however, the introduction of warlike inventions and the increased complexity of modern war have brought into being a fourth Arm—Engineers—as well as varieties of fighting troops for special purposes, which are virtually new Arms, such as Mountain Artillery, Machine Guns, Cyclists, and Mounted Infantry.

CHARACTERISTICS OF THE ARMS

The continued existence of the Arms of the Service for centuries is due to a gradual differentia-

tion of their mode of fighting, owing to changes in weapons, and progress in the Art of War. Each Arm has its peculiar fighting characteristics and its own sphere of action in war, which will be discussed in this chapter. In the next will be described the organization which each Arm has evolved in order to enable it to carry out its functions in war.

1. CAVALRY

ITS SPECIAL FUNCTIONS

Cavalry has been termed "The Arm of Surprise," owing to the rapidity with which it can move. This gives it the power to act with little warning, and from an unexpected direction, against the enemy, and thus to take advantage of the fleeting opportunities which occur in war for sudden attack and surprise. It is *par excellence* the mobile Arm, and the one best adapted for taking the offensive.

Its power of making long and rapid marches enables it also to be thrown far to the front, so as to give to the Army protection from surprise, and to gain the information as to the movements and dispositions of the enemy, without which the Commander will be at a loss in forming his plans.

Cavalry is required too for the effective pursuit of a beaten foe who would elude the slow-moving Infantry. It is also the best Arm to cover a retreat, as it can check the pursuit and then effect a rapid withdrawal before being completely overpowered.

ITS WEAK POINTS

The disadvantage of Cavalry is that it is very dependent on the nature of the country for its action. It is useless in steep, rocky, or marshy ground, or among enclosures, and in woods. Cavalry is also costly to raise, and requires long training for efficiency. It suffers too from great wastage of horses in war, due to unavoidable fatigue, short rations, and bad weather, from which causes horses suffer even more than men.

ITS MODE OF FIGHTING

In the combat, Cavalry acts both by shock and by fire, the latter action being now more developed than of old. Indeed the main difference between the horse-soldiers of the different armies of to-day is whether their training is directed rather to mounted shock-action, or to fire-action dismounted; in the latter case, their rapidity of movement is mainly helpful in getting them to the right place at the right time to use their fire. The ideal Cavalry would be equally capable of shock and fire action, and could be employed either mounted or dismounted, as circumstances and the judgment of the leader might dictate. The British is perhaps the only Cavalry (as General Négrier, Chief of the French General Staff, once said) which is trained to this ideal. The Cavalry of Russia, Japan, and the United States tends rather to action by fire on foot; that of most Continental armies to shock action mounted.

EMPLOYMENT OF CAVALRY IN WAR

The use of Cavalry in modern war lies less in its action on the battlefield than in the all-important work of reconnoitring the enemy, and protecting its own army—that is, of providing *Information* and *Security*. The tendency of the employment of Cavalry in modern war is towards an entire separation of these two duties.

For the first duty, *Reconnaissance*, Cavalry must try to find out the strength and situation of the enemy's forces, and the direction in which they are moving. For the second duty, *Protection*, Cavalry must form a screen along the front of the Army, so as to shelter it from being observed by the enemy's Cavalry, and to give early notice of the direction of any attack.

These two duties of Cavalry cannot be performed by the same body. To get *information* Cavalry must be able to break through the enemy's screen, which can only be effected by beating his Cavalry, and requires concentration of force. Reconnoitring Cavalry will often also have to work round the flanks of the enemy. Both these modes of action must necessarily leave a large portion of the front of its own army uncovered.

On the other hand, *protection* demands a dispersion of the Cavalry along the whole front of the Army, which is exactly opposed to the concentration generally required for effective reconnaissance.

Again, reconnoitring Cavalry is only concerned with keeping in touch with the enemy, while pro-

protective Cavalry must remain in touch with its own army.

The distinction between these functions of Reconnaissance and Protection has become recognized of late years, owing to the increased importance of the Strategical direction of the large masses of troops now in the field, which are not easily diverted when once set in motion, and are more than ever dependent on their Lines of Communication. Their Commander needs constant and recent information about the enemy, by which to direct his movements and secure his flanks from attack. Hence has arisen the practice of providing two distinct bodies of Cavalry—the *Independent Cavalry*, for reconnaissance by independent action at a distance in front of the Army; and the *Protective Cavalry*, spread over a wide area along the front of the Army so as to form a screen.

In both cases the Cavalry effect the object by sending out squadrons, which furnish patrolling parties. The duty of these is not only to discover the enemy's movements, but to make such arrangements for transmitting the information gained that it shall reach Head-Quarters with rapidity and certainty.

2. ARTILLERY

Artillery is the most powerful and far-reaching of the Arms in its *fire* effect, but cannot act by *shock*. It is the only Arm that can strike the others at such a distance that they cannot retaliate, and can injure material objects. Its *morale* is less liable than that of the other Arms to fail

in battle, as Artillery is more dependent on the mechanical than the human element for its action. The guns, too—to which the personnel is attached by sentiment and duty—give a definite point to hold to when other troops are falling back. It is on all these grounds a valuable auxiliary to the other Arms.

DISADVANTAGES OF ARTILLERY

Artillery, however, is incapable of independent action—it must always be associated with the other Arms, as it is easily avoided or turned, and, when moving, is helpless against attack. It takes up a great deal of space in the column of march, as well as on the battlefield, where it requires advantageous positions to fire from, and cover for its horses and ammunition, both often difficult to find. Artillery is also very dependent on the weather and the nature of the country for its action, as it requires clear air and good light, and an absence of hills and woods, to allow the object and the effect of its fire to be observed. It also needs good roads, and is more obstructed by mud, ice, or snow on the march than are the other Arms.

3. ENGINEERS

Engineers, as a body of officers with men, were only introduced towards the end of the eighteenth century, but officers of that name had been employed for centuries on the Staff of Armies, especially at Sieges.

The Engineers are now sometimes styled “The

Fourth Arm of the Service," not so much because they are Combatant Troops, armed and trained like Infantry, as because their work on the battlefield is of interesting tactical importance.

The work with which Engineers with an Army in the Field are charged presents great scope and variety. It may be catalogued under the following headings :

(a) WORK WITH THE FIGHTING TROOPS

Pioneer Work on the march—*i.e.* making roads and removing obstacles ; water supply ; bridging of every sort ; collecting, making, and using boats and rafts for ferrying.

Field Work on the battlefield—*i.e.* clearing the communications and field of fire ; marking ranges ; demolitions ; obstacles ; special earth-work (ordinary trench-work and gun-pits being made by the troops who use them).

Searchlights in the field.

Intercommunication Work—*i.e.* use of telegraphs, telephones, wireless, visual signalling, kites, captive balloons.

Aviation by balloon or airship.

Printing and lithography for Orders and Maps.

(b) WORK IN REAR OF THE FIGHTING TROOPS

Engineers are also charged with the following important work on the Lines of Communication :

Construction, repair, maintenance, and working of railways and telegraphs ; provisional fortification of posts ; camping grounds ; formation of work-

shops and depôts of Engineer Stores ; hutting and housing troops ; providing hospitals, offices, and storehouses ; water supply ; roads. At sea bases, piers, wharves, and tramways will have to be provided, and perhaps dredging undertaken, and buoys, beacons, and lighthouses kept up. Engineers will also have to run any *plant* needed, such as that for providing ice for hospitals, cold storage, electric light and power, gas for balloons and lighting.

Engineers are employed in surveying, or mapping the country passed through by the Army, when this is required in the wilder theatres of operations, like the Indian Frontier.

Besides their duties with the Field Army, Engineers are as necessary as ever for the conduct of Sieges, and the defence of Fortresses, in which services they have constantly been employed for centuries.

4. INFANTRY

Infantry, now the principal Arm, has in modern times recovered the place which it held in the armies of the Ancient World, but lost in the Middle Ages when Horsemen were the Men-at-Arms, or the only fighting men worth considering.

Infantry has for three centuries formed the bulk of every army, being the easiest to raise and train, and the cheapest to equip and keep up, as well as the most useful, of all the Arms. On Infantry falls the brunt of the fighting, and the greatest toil in marching, while it endures the hardships of a campaign better than the mounted Arms. It can be used for attack or defence, in close or

extended order, on any ground, and in any weather. Infantry can fight with its *fire*, at a distance from the enemy, like Artillery, as well as by *shock*, at close quarters, like Cavalry.

But Infantry is slow in movement, and without Cavalry cannot ascertain the operations of the enemy, and will therefore be ill-directed in its own ; it is helpless in pursuit, and unable either to complete a victory or cover a retreat. The action, too, of Infantry fire is limited to the range of the rifle and the effect of the bullet, so that it finds in Artillery a useful auxiliary, owing to the greater effect of fire from guns, and the distance at which they can act. Hence Infantry is greatly assisted in its fighting by associating it with Cavalry and Artillery, just as Cavalry is aided by association with Artillery. It is essential, therefore, that not only every Army, but every Body of Troops which may have to fight independently, should have a due proportion of all Arms. This is the reason for organizing Armies in the *higher Formations*, provided with more than one Arm, as contrasted with the Units composed of *one* Arm only. The latter, however, are the basis of the higher Formations, and their composition and strength must be considered before describing how they are grouped into larger bodies. Therefore the Organization of the Units of each Arm will form the subject of the next chapter.

CHAPTER III

ORGANIZATION OF THE UNITS OF EACH ARM

THE formations in which each Arm is independently organized constitute the *tactical units* of an Army. Their strength and organization are intimately connected with the way in which they are used in fighting, and have varied little since armies first became regularly organized.

The general composition of these Units of each Arm in modern armies will now be described, beginning with Infantry, the principal Arm.

1. INFANTRY

Infantry, as will be seen in the historical portion of this work, used to be of various natures, such as Guards, Grenadiers, Fusiliers, Rifles, and Light Infantry, which still survive, but as names only. Napoleon said he wanted but one sort of Infantry, and that *good Infantry*. This aspiration may now be realized. All Infantry, however designated, is of one kind only, and works in the same manner in war.

The formations of Infantry are the *Company*, the *Battalion*, the *Regiment*, and the *Brigade*.

THE COMPANY

The Company, with its three officers—Captain, Lieutenant, and Ensign—and its Sergeants and Corporals, has been for centuries the foundation stone of the organization of Infantry. Its Chief, the *Captain*, is the officer with whom the men are most intimately associated, as he is responsible not only for their drill, discipline, and training, but also for their food, clothing, pay, and lodging. The men's confidence in their Captain is grounded on this responsibility. It is to him that they learn to look for their well-being, comfort, and redress of grievances, as well as for praise or blame. The Captain is thus in daily contact with the men, and learns to know them, and be known by them. His influence with his men, owing to these personal relations, is the keystone of command and discipline, and makes him their natural leader in action.

To avoid repetition, it may be here mentioned that the same remarks apply to the *Squadron* and *Battery Commanders*, who, in the Cavalry and Artillery, hold the same position with regard to their men as the Captain does in the Infantry.

The Company is usually divided into *Half-Companies*, commanded by a Lieutenant, and into four *Sections*, each under a Sergeant; but the German Company has three Sections under a Lieutenant. The tactical movements of a Company in action are usually carried out by Sections.

THE BATTALION

The Battalion of 1,000 men is universally recognized as the Tactical Unit of Infantry. Operations are ordered, carried out, and recorded by Battalions. The Battalion is in modern armies provided with transport to carry its ammunition and entrenching tools, as well as its baggage and immediate supply of food, so as to render it independent.

The Battalion is commanded in foreign armies by a Major or his equivalent, but in the British and Russian Services by a Lieutenant-Colonel. The Battalion Commander is assisted by a Staff Officer, styled his *Adjutant*, and by a small Administrative Staff.

The number of Companies in a Battalion is, in the British Service, eight, with 3 officers and 120 men each, but in other armies four, with 4 or 5 officers and 240 men.

The system of dividing the Battalion into a few large companies was adopted in Prussia during the eighteenth century so as to economize in officers, partly to save expense, partly because of the dearth of men fit for commissions, in the increasing army of that small country. In the huge armies of to-day this system commends itself for the same reasons; while England and the United States have kept to small companies, with their original strength of about 100 men. Owing to the increasing difficulty of exercising control in battle, small companies give advantages as to Command. They also provide any necessary de-

tachments, such as outposts and advanced guards, better than large companies, which may have to be broken up for these purposes. The fact, too, cannot be overlooked, that in an army of small companies there are four Captains more per thousand men, which gives a useful reserve of officers.

THE INFANTRY REGIMENT

Two, three, or four Battalions form a *Regiment*, designated by a number or by a permanent name, territorial or personal. In the Regiment are embodied the honourable traditions which have accrued in history, and the *esprit de corps* engendered by them. The officers are on one Regimental List for promotion, and so serve continuously in the Regiment. They thereby acquire a camaraderie, professional feeling, and personal intimacy with each other and with their men, of the greatest value in war. In foreign armies, with short service of two years, it is hardly too much to say that the Regimental Officers really constitute the permanent army, through which there flows continuously a stream of recruits, receiving a professional impress from their officers.

The Regiment is in foreign armies commanded by a Colonel (with sometimes a Lieutenant-Colonel), assisted by an Adjutant and a small Administrative Staff. The British Regiment is merely a peace organization never found as a whole in war, and the Battalion, with its Colonel and his Staff, its Colours and band, its traditions, history, and *esprit de corps*, represents what in foreign armies we find in the

Regiment. The battalions of the foreign Regiment are merely its tactical units, just as the companies are to the Battalion.

THE INFANTRY BRIGADE

The Brigade is the largest body formed of Infantry only. In the British Service, where there is no *Regimental* organization in war, the Brigade comprises four battalions. In foreign armies it is composed of two Regiments (comprising six to eight battalions), a faulty organization for Command purposes, as shown in Chapter I.

Brigades are commanded by a Brigadier-General, with a Staff Officer, who is styled in England the *Brigade Major*.

2. CAVALRY

Cavalry, like Infantry, was once of many different natures—"Light," "Heavy," Hussars, Dragoons, Lancers, etc. These names still survive in the armies of Europe, but the regiments so designated now form practically only one sort of Cavalry, and are all trained for identical action in war, although they still bear their historic names and uniforms, and keep up the old rivalry of their corps traditions.

The formations of Cavalry are the *Troop*, the *Squadron*, the *Regiment*, and the *Brigade*.

THE SQUADRON

The Tactical Unit of Cavalry has since the seventeenth century been the *Squadron* of about 150

men. Its strength in different armies now varies between 130 and 180 men.

The Squadron is divided into four *Troops*, each of which is commanded by a Lieutenant. The Squadron leader is a Major or a Captain. The British Squadron has both these officers, and four Lieutenants.

THE CAVALRY REGIMENT

The Regiment is the permanent and administrative Cavalry Unit, and like the regiment of Infantry, has its special title or number, its own history and esprit de corps, and its band.

The number of Squadrons in a Regiment varies in different armies, there being generally four, but five in the Italian and Japanese, and six in the Austrian and Russian Services. There are three in the British Cavalry at home, but four in the Yeomanry and also in India. The Regiment thus forms a body of from 500 to 900 men, and is commanded by a Colonel, or a Lieutenant-Colonel, with an Adjutant as Staff Officer, besides a small Administrative Staff.

THE CAVALRY BRIGADE

The Brigade is formed in most armies of two Regiments, but in the British, American, and Swiss armies of three—a superior form of organization for Command, as shown in Chapter I., and one probably better suited for the tactics of Cavalry.

The Brigade is commanded by a Brigadier-General, with a Staff Officer (or Brigade Major).

3. ARTILLERY

Artillery is of many descriptions, differing in the guns they use, and their functions in war. Only that brought into the field with an army, as distinguished from Siege, Fortress, and Coast Artillery, will be here described. It may be divided into *Field Artillery*, *Heavy Artillery*, and *Mountain Artillery*.

FIELD ARTILLERY

Field Artillery in the most general sense means the Mounted Branch of the Arm, which possesses mobility, so as to accompany the other Arms. Its personnel does not march on foot, so that the guns can move at a pace beyond the walk, when desired. It comprises *Field Artillery* proper, or that armed with the Field Gun (or Field Howitzer) and *Horse Artillery*.

Field Guns form the larger portion of all Artillery in the field. They fire mainly shrapnel, or shell containing small round bullets which are very effective against the enemy's men and horses, but useless against material objects. In foreign armies they have therefore a small amount of shell filled with high explosive, in addition to the shrapnel.

Field Howitzers use high-angle fire, giving a large angle of descent, so that they can search out the enemy's trenches. They are provided with high-explosive shell in addition to shrapnel, so as to destroy masonry and field works, which the shrapnel of field guns cannot injure.

Both these varieties of Field Artillery have their

Officers and Sergeants mounted, and carry their men seated on the gun limbers, or on the wagons, so that they can move at a trot.

Horse Artillery is provided for supporting Cavalry in action. It is armed with a lighter nature of field gun, and has its personnel mounted, so as to be very mobile. It can keep up with Cavalry both on the march and in action, and can move at the gallop when required.

HEAVY ARTILLERY

This comprises the heaviest guns and howitzers having sufficient mobility to accompany an army in the field. It uses shell filled with a high explosive, as well as a large shrapnel, and is therefore effective against field works and masonry as well as against men and horses. It differs from Field Artillery in having less mobility, but longer range and much greater effect. It generally comes into action at long ranges, and changes its position as little as possible in action. It will be very effective against the enemy's artillery and field works, and its great range will allow it to bring oblique fire on the vital portions of his line.

Heavy Artillery is manned by the non-mounted Branch, called *Garrison Artillery* in England, and *Foot Artillery* abroad. It requires eight-horse teams, and moves only at a walk, the men marching on foot.

MOUNTAIN ARTILLERY

Artillery carried on pack animals is used in hilly, enclosed, or rough country, where wheels

cannot pass. It is the weakest form of Artillery in shell-power, as it is armed with a light gun, which can be carried on a pack mule. A heavier gun can be carried, if formed of two parts, each about 200 lb. weight, or a load for one mule, which can be jointed together for action. The gun carriages, ammunition, and stores are also carried on mules, and the personnel marches on foot, and is provided from the "Foot" (or "Garrison") Artillery. The slowness of Mountain compared to Field Artillery is compensated in broken country by its ability to take cover, and to come into action in places inaccessible to Field Guns, so that it can support Infantry more closely.

THE BATTERY

The Tactical Unit of Artillery is the *Battery*, of 4, 6, or 8 guns, with 1 to 3 Ammunition Wagons to each gun. Field guns and wagons have six-horse teams; Heavy Artillery has eight-horse teams.

In France, Switzerland, Turkey and the United States all Batteries are of 4 guns.

In other armies all Field and Horse Artillery Batteries are of 6 guns, except in Austria, where Horse Artillery has 4-gun Batteries, and in Russia, where Field Batteries have 8 guns.

Heavy Batteries have generally 4 guns, owing to the number of wagons required to carry a sufficient amount of their heavy ammunition.

Mountain Batteries have 4 guns, except in Russia, where they have 8.

The Battery in all armies has a strength of from 130 to 200 men and horses. It is divided into *Sections* of 2 guns with their wagons, commanded by a Lieutenant, and these into *Sub-Sections* under a Sergeant. The *Battery Commander* is a Captain, except in the Russian Service, where he is a Lieutenant-Colonel, and in the British Service, where he is a Major, with a Captain as Second-in-Command to take charge of the Ammunition Supply in action. To assist the Battery Commander in action, he has a Staff comprising trumpeters, rangetakers, observers, signalers, mounted orderlies, scouts, and horse-holders. There is also a small Administrative Staff, including artificers for repair of harness and carriages.

THE ARTILLERY BRIGADE

Batteries are grouped into larger Units, called in the British Service *Brigades*. They are commanded by a Lieutenant-Colonel, with an Adjutant, and a Staff for purposes of observation and command, including telephone and signalling detachments, rangetakers, and orderlies. This Unit is called an *Abteilung* in Germany, a *Groupe* in France, a *Division* in Russia and Austria, and a *Battalion* in Japan and the United States. It comprises as a rule three batteries of Field Guns, or of Howitzers (or two batteries of Horse Artillery), with an Ammunition Column. Heavy Batteries in the British Service are not brigaded, but one, with its own Ammunition Column, forms part of the Artillery of each Division. In foreign armies they are grouped by twos or fours into *Battalions*.

HIGHER UNITS OF ARTILLERY

In foreign armies the above Units of three batteries are grouped by pairs into *Artillery Regiments*, commanded by a Colonel with a Staff. The Divisional Artillery and the Corps Artillery are respectively formed of one or more Regiments.

Two Artillery Regiments are in some armies grouped into an *Artillery Brigade*, which forms the Divisional or Corps Artillery, and is commanded by a General with a Staff.

AMMUNITION COLUMNS

Ammunition Columns form an integral part of the Artillery, but they carry ammunition for Infantry as well as for the guns. They are Fighting Units, because the replenishment of ammunition is a function of the Fighting Troops, and the movements of Ammunition Columns are tactical operations. The Ammunition Columns belonging to Units of Artillery provide the first reserve of ammunition. The second reserve of ammunition is provided by *Divisional Ammunition Columns*, which in foreign armies form the *Divisional Ammunition Park*. There is in large armies also an *Army Corps Ammunition Park* comprising several Columns, and an *Army Ammunition Park*, behind which are the *Ammunition Dépôts* on the L. of C.

The Ammunition Columns constitute also a reserve to draw on for officers, men, teams, and matériel, to replace the losses of the Batteries. In Manchuria, the men of the Ammunition Columns were, within twelve months, all absorbed by the Batteries.

An Ammunition Column comprises about 150 to 200 men and as many horses, with from 20 to 30 ammunition wagons.

BRITISH AMMUNITION SUPPLY

In the British Service the organization of the Ammunition Supply is as follows :

The Field Battery and Horse Artillery ammunition wagons carry 176 rounds per gun, those of a Howitzer Battery 88, and of a Heavy Battery 76 rounds per gun.

The Ammunition Column of each Field Artillery Brigade carries 200 rounds per gun for its Brigade. It carries also rifle ammunition (100 rounds per rifle) for one Infantry Brigade. The Horse Artillery Ammunition Column carries a supply of rifle ammunition (100 rounds per rifle) for the Mounted Troops, in addition to gun ammunition at the rate of 220 rounds per gun.

The Ammunition Column of a Howitzer Brigade, and that of a Heavy Battery, which have to carry heavier gun-ammunition, at the rate of 70 and 98 rounds per gun respectively, carry no rifle ammunition.

The Divisional Ammunition Column is divided into 4 Sections, giving three for the three Field Artillery Brigades (carrying 120 rounds per gun), and one Section with ammunition for the Howitzer Brigade (92 rounds per gun) and for the Heavy Battery (80 rounds per gun), and also for a proportion of the guns with the Mounted Troops. Each of the first three Sections carries a reserve of 100 rounds per rifle for one Infantry Brigade. The

fourth Section, having heavier gun-ammunition to carry, is not burdened with any rifle ammunition.

The number of rounds of ammunition with the Force in the field is as follows :

GUN AMMUNITION

	Rounds.
Per Field Gun with its two wagons .	176
Brigade Ammunition Column .	200
Divisional Ammunition Column .	120

Total with troops, about 500 rounds per Field Gun, and rather more per Horse Artillery Gun. Per Howitzer, or Heavy Gun, about half that per Field Gun. About an equal amount is in Ordnance Store charge on the L. of C. ready to replace what is expended.

SMALL-ARM AMMUNITION

ROUNDS PER RIFLE

On the man	150
Regimental Reserve	100
Brigade Ammunition Column	100
Divisional Column	100

ROUNDS PER MACHINE GUN

Ammunition for Machine Guns with Infantry is allotted as follows : With each gun, 3,500 rounds ; in Regimental Reserve, 8,000 ; in Brigade Ammunition Column, 10,000 ; in Divisional Ammunition Column, 10,000. Guns with Cavalry have the same, except twice as much in Regimental Reserve.

4. ENGINEERS

Engineers are allotted to the larger formations of all Arms in the field, to carry out the varied work required with the troops at the front, as described in Chapter II.

In foreign armies they are organized in Companies belonging to the Engineer Battalion of the Army Corps, and one Company is allotted to each Division, and one to the Corps Troops. Its strength is that of the Infantry Company (250 men), under a Captain, with three or four officers. In order that its tools and stores shall accompany it and be at hand for work, each Company has transport allotted to it from the "Train Battalion" of the Army Corps. The Cavalry Division has generally some Engineers, who are mounted or carried on wagons, so as to keep up with the Division.

A reserve of tools and equipment for the Companies is carried by a column of wagons called the *Army Corps Engineer Park*.

In the British Service there are with each Division two *Field Companies* of Engineers, each having 156 working sappers, and with the Cavalry Division four *Field Troops*, each with 40 working sappers, half of whom are mounted, half carried on the tool carts. Thus, if a Cavalry Brigade is detached, it can take with it a Field Troop of Engineers. The drivers and transport are integral portions of the Engineer Troops and Companies.

Telegraph Companies of Engineers are in all armies allotted to each Command for inter-com-

munication purposes. Those of the British Service are described later among the Administrative Services, in Chapter IX.

Another Unit of Engineers is the *Bridging Train*, which supplements the small bridge equipment carried by the Engineer Field Companies. In foreign armies these Trains are manned by Engineers, but horsed by the "Train," and one is allotted to each Division and Army Corps. In the British Service the Bridging Trains are "Army Troops," and are not allotted to Divisions.

CHAPTER IV

NEW VARIETIES OF FIGHTING TROOPS

It was mentioned in Chapter II. that of late years there have been added to modern armies a number of new varieties of troops, which it is not possible to group under the old heads of the Three Arms.

These varieties may be described under the following heads :

1. Mounted Infantry.
2. Mountain Infantry.
3. Mountain Artillery.
4. Machine Guns.
5. Cavalry Pioneers.
6. Cyclists and Motor Cars.
7. Scouts.
8. Field Orderlies.
9. Military Police.

A short description of the functions and organization of these troops will now be given.

1. MOUNTED INFANTRY

Mounted Infantry is to-day what Dragoons were when first introduced—that is, Infantry mounted

only so as to be quickly moved to a point where it is to fight on foot. Mounted Infantry is armed only with the rifle, and is neither trained nor armed for shock action on horseback.

The introduction of Mounted Infantry was advocated long ago by Jomini in his "Art of War" (Vol. ii., chap. viii., sect. 45), but up to now this Arm only exists in the British Service, and there it is only organized in war, when Mounted Infantry Battalions are formed of men from Infantry Battalions trained for the purpose in peace.

British Mounted Infantry is organized in Battalions of 3 Companies with a Machine-Gun Section, Units of identical strength with the *Cavalry Regiment*, Squadron, and Machine-Gun Section.

Mounted Infantry is employed in two capacities in the British Service :

(a) In the *Mounted Brigades*, in which it acts with Cavalry, whose shock action it supports by its fire.

(b) As *Divisional Mounted Troops*, which are used as Advanced Guards and Outposts for protection ; as Patrols for reconnaissance ; as Escorts for Head-Quarters, Batteries, and Trains ; for keeping connection, both with the Cavalry in front and with adjoining Divisions ; for internal communication in their own Division.

2. MOUNTAIN INFANTRY

Infantry Battalions specially trained and equipped for mountain fighting, like the "Alpine Troops" of France and Italy, are kept up in foreign countries, where warfare may, as often in the past, be carried

on in difficult mountain regions. Switzerland and Austria have Mounted Infantry Battalions formed into Brigades, to which Mountain Batteries are attached. Austria has organized *Mountain Transport Squadrons* for these Brigades.

3. MOUNTAIN ARTILLERY

The Arm is described under the head of Artillery, in Chapter III. It is provided for mountain fighting in India, France, Austria, Russia, Switzerland, and the United States, and in the "Highlands" Division of the British Territorial Army. In Austria there are Mountain *howitzers* as well as *guns*.

4. MACHINE GUNS

Every nation has now introduced Machine Guns as a valuable auxiliary to Cavalry and Infantry. The intention, not as yet fully carried out, is to form a Unit of two Machine Guns in every Cavalry Regiment and in every Battalion (or at least in every Regiment) of Infantry. In the German and some other armies these guns will be taken away from their Units and grouped by sixes into "sections," which will be virtually independent batteries of machine guns.

In the British Service a Section of two Machine Guns is provided by every Cavalry Regiment and Infantry Battalion. These guns, which fire from tripods, are carried in wagons with four horses in Cavalry Sections, for rapidity of movement, and with two horses in Infantry Sections. The Section is commanded by one of the Lieutenants, with a

VARIETIES OF FIGHTING TROOPS 35

Sergeant, a Corporal, and the necessary drivers. To each gun there are six men, who are of course mounted in the Cavalry Section.

The Germans have adopted the Battery formation. The *Mounted Section*, for use with the Cavalry Division, consists of 6 guns on four-horsed carriages, with 3 ammunition wagons. The strength is 1 Lieutenant, 130 men, 90 horses. The officer and sergeant are mounted, and the men are carried on the gun carriage. The *Foot Section* forms an extra Company, the 13th, of each Infantry Regiment. It has 6 guns on two-horsed carriages, with 3 ammunition wagons. The strength is 1 Lieutenant, 83 men, 28 draught horses. The officer and 3 N.C.O.'s are mounted; the men march on foot, and are armed with pistols.

In Japan, there is to be a 6-gun Section to each Infantry Regiment, with a strength of 1 Officer, 1 W.O., 6 N.C.O.'s, 36 men. Guns and ammunition are carried on 30 pack horses. There will be an 8-gun Section to each Cavalry Brigade, with a strength of 3 Officers, 87 men.

In Switzerland a Machine-Gun Battery takes the place of Horse Artillery with Cavalry. It consists of 8 guns, and is carried on pack mules, with its personnel mounted.

5. CAVALRY PIONEERS

In the Austrian Service a few men from each Cavalry Squadron have long been trained to perform Engineers' duties, such as demolitions and repair of bridges, railways, and telegraphs, and hasty field works. This plan has been adopted to a

limited extent in the British Cavalry, where a corporal and four men of each Squadron are trained in Pioneer duties. The German Cavalry Regiment has a Bridging equipment of 4 Pontoons, to form small bridges, or rafts, and a Demolition equipment carried in the Pontoon wagons, with men of the Regiment trained to use both.

6. CYCLISTS AND MOTOR CARS

Cyclist Infantry have been introduced into some armies, to carry Orders and messages. They will relieve Cavalry of part of their orderly, scouting, and patrolling work, as they can move as rapidly as mounted men, as long as the roads are good. Besides these duties it is claimed that Cyclists can also be used for fighting. Being armed as Infantry, but more rapid in movement, they could be used like mounted Infantry, to surprise the enemy with rifle fire from distant and unexpected places, or to seize and hold important tactical points, such as bridges, defiles, and hills, before the Infantry can reach them. As yet, however, it cannot be said that any decision has been arrived at as to the organization, equipment, and sphere of utility of Cyclists, or their employment as fighting troops.

In the British Service it is expected that each Unit will furnish a few Cyclists, and there are bicycles allotted to each Head-Quarters, to every Unit of fighting troops, and to telegraph companies, for inter-communication purposes. The Territorial Army has, besides 12 Cyclists per battalion, ten Cyclist Battalions.

The French, who were the first to form Military

Cyclists, have a few companies, each of 4 Officers and 175 men.

The Germans provide 19 Cyclists from each Infantry Regiment, 9 from each Artillery Regiment, and 6 from each Cavalry Regiment. The latter will probably be massed as one body in the Cavalry Division, for transmitting intelligence.

Austria has a Volunteer Cyclist Corps for each Army Corps, and two Companies of Cyclists are to be attached to each Cavalry Division for use as fighting troops.

Italy has 24 Cyclists per Infantry Regiment, and two Battalions of Bersaglieri (or Rifles) are organized as Cyclists.

MOTOR-CAR SERVICE IN WAR

Motor Cars will be much used in war for conveyance of Generals and Staff Officers on the march and in action, as the power of covering the ground rapidly is of great advantage to Command of Troops, enabling what is passing at a distance to be seen, and decisions to be made and communicated without delay.

There will be great scope for Motors in carrying supplies to the troops from railhead, thus rendering the daily supply far more certain, and obviating blocking the roads with long trains of wagons. This system is being organized on the Continent.

7. SCOUTS

Scouts are men whose function is to reconnoitre the ground, or the enemy, without fighting. They are soldiers selected for intelligence, activity, self-

reliance, and powers of observation. ("Infantry Training," 1905, p. 73.)

Scouts are taken from Infantry Battalions, Cavalry Regiments, or Batteries, and work in the neighbourhood of their own Corps and for its immediate benefit. They move out generally in pairs, so that one man may take back information, if signalling is not possible.

In the British Service the numbers of Scouts are :

Infantry : 1 N.C.O. and 6 men per Company, of whom 1 Sergeant and 16 men per Battalion are First-Class Scouts.

Cavalry : 1 Officer, as Scout Leader, 1 Sergeant, 24 men, per Regiment.

Artillery : One or two "Ground Scouts" in front of the Battery when it is manœuvring. Two "Look-out Men" close to the Battery in action.

German Cavalry has 1 N.C.O. and 2 men per Squadron as Ground Scouts, and 1 Officer per Regiment in charge of them.

In France 12 mounted Ground Scouts, "Eclaireurs de terrain montés d'infanterie," are to be attached to each Infantry Regiment.

The Russians in Manchuria used volunteers from Infantry Regiments as mounted Scouts, with good results.

Corps of Scouts and Guides have been formed from time to time, as in the American Civil War, and lately in Canada. They cannot, however, be

said to have any actual existence in organized armies, but will probably be extemporized in war.

8. FIELD ORDERLIES

Wellington organized in the Peninsula a Corps of Guides and a Mounted Staff Corps, who acted as despatch riders and police. Napoleon had similar corps, and their usefulness is obvious. But it may be doubted if the multiplication of small special corps is not objectionable and wasteful of men and horses. Modern practice tends to allot the carrying of messages and Orders to orderlies furnished at Head-Quarters of Commands, either by Cyclists, by the men of the Cavalry escort, or by the Mounted Police.

The Germans have always had at Head-Quarters a small corps of *Feldjäger*s, or mounted orderlies, for carrying despatches, and have now formed a body of motor-cycle volunteers for this purpose.

In the British Cavalry Division, four men from every squadron are trained as despatch riders, and Officers of the "Motor Reserve," with their cars, are attached to every Head-Quarters, for carrying Orders and messages.

There is a *Courier Corps* in the Russian Service, which provides one section of 4 Officers and 6 N.C.O.'s for each Army Corps Head-Quarters. Two sections are allotted to Army Commands.

9. MILITARY POLICE

A body of *Police* is now a necessity for an Army. They comprise *Mounted*, as well as *Foot*

Police. Their duties are to enforce sanitary regulations, to preserve order, especially in rear of the Army, and to carry out sentences of Courts-Martial. They ensure regularity in allotting billets and enforcing requisitions. They control sutlers and civilians with the Army, protect civil property, prevent marauding, and arrest stragglers, deserters, and spies. During action they will be useful in clearing roads, and maintaining order in rear of the fighting, and later will keep off the ghouls who infest the battlefield to plunder the dead and kill the wounded.

Small detachments of Military Police are in the British Service attached to all Head-Quarters, under the orders of the Assistant-Provost-Marshal. Foot Police will be attached to General Head-Quarters and those of the L. of C.; Mounted Police to all other Head-Quarters; while at Base Head-Quarters there will be both.

CHAPTER V

FORMATIONS OF ALL ARMS

THE Larger Formations are formed by combining in one body a number of the Smaller Formations composed of Units of each Arm, together with the Administrative Units required for their service. The body thus formed is then provided with *Head-Quarters*, comprising the Commander and his Staff, and other necessary personnel. The numbers of Units and of Lesser Formations grouped together, and their proportion to each other, are dictated by past experience and a forecast of future fighting requirements.

The bodies thus formed constitute what are called the *Subordinate Commands* of the Army. They are self-contained, and capable of independent existence and action—*existence*, because they have the necessary Administrative Services to supply their wants; *action*, because, having considerable strength, and a proper proportion of all Arms, they can fight for a certain time without support from other bodies of troops.

In this chapter will be discussed these *Subordinate Commands* and the *Administrative Services*

allotted to them. The succeeding chapter will describe their *Staff* and the composition of their *Head-Quarters*.

1. THE DIVISION

The *Division* is the basis of the higher organization of Armies in the Field. It may be mainly composed of Infantry or of Cavalry. In the former case it is generally termed simply a *Division*, in the latter a *Cavalry Division*. Its Commander is generally a Major-General, and is provided with a Staff, to which the Heads of the Divisional Administrative Services are attached.

Divisions are organized on the following general lines in various armies :

THE INFANTRY DIVISION

The *Infantry Division* is formed of two or three Infantry Brigades—that is, of 12, 16, or 18 Battalions. The “two-Brigade” organization, the most common abroad, is inferior to that of the British Army in three Brigades, for the reasons already discussed in the first chapter. The Division is furnished with other Arms to assist the action of the Infantry, and has generally the following :

Cavalry: 1 Regiment, or sometimes only 2 Squadrons.

Artillery: 4 to 12 Batteries, organized in Brigades, and with the Brigades sometimes grouped in Regiments. One or other of these formations has an ammunition column. The larger number of guns is allotted when,

as in Germany and England, no Army Corps Artillery exists.

Engineers : A Field Company.

Administrative Services : Ammunition Columns ; Supply Columns ; Field Ambulances ; a Field Post Office.

In some armies the Division has also a light Bridging Train ; a Field Hospital ; a mobile Remount Depôt ; a Finance Office ; Chaplains.

The Divisional *Head-Quarters* comprise, besides the Commander and his Staff, a number of Heads of Administrative Services, a Telegraph Company, or "Communication Unit," Military Police, and the necessary Transport.

THE CAVALRY DIVISION

The *Cavalry Division* is formed of two or three Cavalry Brigades—that is, of 16 to 24 Squadrons, in foreign armies. It has also one Brigade of Horse Artillery of 12 guns, with its ammunition column, and generally some Mounted Engineers and a Telegraph Detachment.

The British Cavalry Division has 4 Brigades or 36 Squadrons ; 2 *Brigades* of Horse Artillery—that is, 4 Batteries, or 24 guns ; 4 *Field Troops* of Engineers ; and a *Wireless Telegraph Company* in four sections. It is obvious that by this organization a Brigade can be furnished with all Units it requires for independent action when detached.

Cavalry Divisions are furnished with the following Administrative Units : *A Supply Column* ; *Field Ambulances* ; *Field Post Office*.

2. THE ARMY CORPS

MEANING OF THE TERM

This word is a somewhat misleading translation of the original French term *Corps d'Armée*, which means one of the bodies of troops forming an army, whereas the English term (which came through the German *Armee Korps*) might be supposed to mean a Corps which is an army in itself. It is now generally shortened to *Corps*.

REASON FOR ORGANIZATION BY ARMY CORPS

If the Army is very large, there must be an intermediate link in the chain of Command between its Commander and the Divisions, or there would be too many Subordinate Commanders for the Army Commander to direct effectively. This link is provided in the larger armies of the Continent by the *Army Corps*, formed of two or more Infantry Divisions. A similar grouping of some of the Cavalry Divisions into *Cavalry Corps* may be occasionally found in war.

Jomini pointed out ("Art de la Guerre," Vol. ii., chap. vii.), and Clausewitz ("On War," Book v., chap. v.) endorsed his view, that, for armies up to 100,000 strong, a *Divisional* organization was best. This strength represents five or six Divisions, and one or two Cavalry Divisions, which may therefore be considered as the maximum number which an army should comprise, if organized in Divisions only.

The advantages of the *Army Corps* organization of armies are that the Supreme Command is facilitated by there being fewer Units to direct, and that a *few* important Commanders can be better selected than a number. This organization also provides a large independent force, under a Senior Commander, available for any special mission. There were periods in the South African War when the temporary employment of several Divisions for a special purpose would have been more effective had they formed a permanent organization like an *Army Corps*, with its own Commander and Staff. At the same time it is undoubtedly true that, except when unavoidable, the addition of another step in the gradation of Command is undesirable for many reasons. It is wasteful in Staff; it tends to delay the transmission of Orders; and the large strength of the *Army Corps* gives their Commanders so much importance as to lead to considerable independence in their action, which may weaken the Supreme Command.

In large armies, however, organization by *Army Corps* is unavoidable. We therefore naturally find the forces of the great military powers of Europe—Germany, France, Russia, Austria, Italy—organized by *Army Corps*, while the forces of Turkey, Japan, Great Britain, and the smaller nations of Europe are organized by *Divisions* only. Switzerland is about to comply with this principle by transforming her present *Army Corps* into *Divisions*.

COMPOSITION OF AN ARMY CORPS

An Army Corps is generally composed, after the German model, of two Divisions, in spite of the ruling of Clausewitz that a division of any Unit into two parts is the worst possible. This is admitted by von der Goltz in his "Nation in Arms," and also by von Schellendorf in his "Duties of the General Staff." Both agree that an Army Corps should have *three* Divisions, but think that it would be difficult to alter a system so deeply rooted in Germany. This criticism applies also to the bipartite organization of both Cavalry and Infantry Divisions and Brigades, which exists in most Continental armies. The Austrians have therefore adopted a Corps of three Divisions, and the Germans and French think of adding a Reserve Division to the two forming their Army Corps. To have three Divisions would undoubtedly strengthen the Command of the *Corps*, and, by reducing the number of Corps, facilitate that of the *Army*.

Besides the Infantry Divisions, there are other troops in an Army Corps—namely, Cavalry, Artillery, Engineers, and Administrative Services.

Corps Cavalry.—The French have a *Brigade* of Corps Cavalry, the Russians a *Division*. This is probably a better arrangement for providing "protective Cavalry" than to rely only on the few squadrons of *Divisional* Cavalry, as in Germany and Austria.

Corps Artillery.—German and Russian Army Corps have no Corps Artillery; other armies have two or more Brigades, organized in Regiments.

Heavy Artillery is likely to be allotted to Army Corps or perhaps to Armies, in foreign armies, as it is in England to the Division.

Corps Engineers.—A Company or two, with an Engineer Park of tools and stores, a Bridging Train, and Telegraph Units, form the Corps Engineers.

The *Corps Administrative Services* comprise in most armies an Ammunition Park, a Supply Park, a Field Bakery, Field Hospitals, and a Remount and Veterinary Dépôt.

3. CAVALRY CORPS

It has been suggested that the duty of strategic reconnaissance, for which the Cavalry Divisions are organized, might be better performed if these were grouped under one Command; but such a permanent combination of Cavalry Divisions into Corps has only been carried out in Russia, where there is one Cavalry Corps of 2 Divisions (48 squadrons), or 7,000 sabres and 24 guns. The British Cavalry Division, however, of 4 Brigades (36 squadrons and 24 guns) is virtually a Cavalry Corps, except that its internal organization is by *Brigades* and not by *Divisions*, and so avoids the evil of bipartite division. An improvised Corps of 2 Divisions has been tried in German manœuvres, and it is expected that in war one or more of them will be formed. They will perhaps be kept in the hands of the Supreme Command for independent action, each Army Commander retaining a Division or two as "Army Cavalry."

To group 2 or 3 Divisions into a Cavalry Corps under one Command makes it easier and quicker to

concentrate them and break through the enemy's screen, as long as all the Divisions are moving in the same direction, and engaged in the same task. But if they are covering a broad front, and acting on separate objectives, it would be a mistake to group them under one Commander, who must necessarily be acting at some distance. In this case, the independence of the Divisional Commanders will conduce to the quick tactical decisions on which success depends.

It would seem sound not to distribute the whole of a large Cavalry force equally among the Divisions, nor the latter equally among the Armies, but to allot according to the capacity of the Commanders, and the importance of the strategical work they have to accomplish. If this be so, there may be something to be said for the French Divisions of unequal strength, some of 2, some of 3 Brigades. But in the opinion of von Bernhardt, the leading exponent of modern Cavalry views, even the usual Continental Division of 3 Brigades is "much too weak," seeing that the Brigades are of two Regiments. He strongly advocates a three-Regiment Brigade, which is that of the British Service.

4. THE ARMY AS A UNIT

The Military Forces of the Great Powers have now grown so large that a further development of organization has become necessary. They are therefore divided in war into separate *Armies*. *Army*, in this new sense, does not mean, as it used to, the whole Force, for which, indeed, some other

word than "Army" is urgently needed. An *Army* is simply the highest Unit in the organization of a great host in the field.

This division into separate Armies, each forming a definite Unit, with its own Commander and Staff, and numbered from right to left, was first seen in the two great wars carried on by Prussia in 1866 and 1870. Each Army had its own Lines of Communication, and moved and fought independently under its Commander, in obedience to general instructions issued at intervals by Moltke, as Chief of the General Staff, on the authority of the Commander-in-Chief, the King of Prussia.

This system was followed in Manchuria by the Japanese, who had four, and later five, Armies in the field under one Supreme Command. It is now obligatory on all nations putting several hundred thousand men in the field to organize them in separate Armies. In any future war between France and Germany each Power will probably form five such Armies under one Supreme Commander, or "Generalissimo," as the French (following Jomini) style him. Each Army will have its own sphere of action and Lines of Communication.

The modern organization by Armies differs from that adopted by Napoleon for the invasion of Russia, and in the German campaign which followed in 1813. It is true that, by forming large detachments to the flanks, he divided his enormous forces into what were practically separate Armies ; but the main body in the centre was not only by

far the most important, but was under Napoleon's own command. In fact he commanded one of the Armies himself, while at the same time directing the whole Force. It is now recognized that this arrangement was far from successful, even under Napoleon, and would be impossible for a lesser man. The Supreme Commander must not himself command one of his Armies. If he were to attempt this, the other Armies would become merely large detachments ; plans would tend to be based on the movements of the main body ; and the operations of the Armies would lose in scope and independence.

The size of Armies must obviously be limited to the number which one man can command. This, according to Clausewitz, should not exceed 120,000 to 150,000. The total strength depends mainly on the number of Subordinate Commands. Napoleon was of opinion that five were enough for one man to command. Clausewitz laid down eight as the maximum.

In the great hosts of modern nations *Armies* are not organized in peace, and their composition in war is kept secret, but it is certain that they will not consist of less than three, or of more than six *Army Corps* (or *Divisions*, where *Army Corps* are not used), and most probably of four or five, with two or three *Cavalry Divisions*.

We have thus traced the development of the *Higher Commands*, or those of all Arms, from the *Division* to the *Army*, and will now consider the Administrative Services and Staff allotted to them.

THE ADMINISTRATIVE SERVICES

As indicated at the beginning of the second chapter, a number of Administrative Services are required, to provide the Fighting Troops with all they need to keep up their strength and efficiency. An army cannot act without a service of communication for transmission of Orders ; it cannot exist without a supply of food and clothing, fight without ammunition, or move without transport to carry these stores. To maintain its discipline there must be Police, and a department of Military Justice. For reasons of *morale*, the sick and wounded must be collected and tended, and it is also desirable that its letters should pass with regularity to and from home, and that spiritual ministrations should be provided.

These points, with the exception of the Medical Services, were as a rule little considered until the close of the eighteenth century, when Carnot devoted much attention to them while organizing the revolutionary armies in France. Napoleon and Wellington improved them considerably, but they were still very inadequate in England till after the Crimean War.

In modern armies a good system of administration is universally felt to be of the greatest importance. Services are therefore organized to meet the administrative requirements of an army in the field, which may be classed under the following heads :

Inter-communication throughout the Force.

Supply of food, ammunition, and other stores.

Transport by rail and road.

Medical and Veterinary aid.

Replacing loss in men or horses.

The above bear directly on the fighting; but there are also certain semi-civil services, which cannot well be dispensed with in war. These deal with the following matters:

Guidance as to Law—military, martial, and international.

Finance, Accounts, the provision and issue of Cash.

Clerical work, in connection with Statistics, Records, invaliding sick and wounded, etc.

Postal Service.

Spiritual ministrations.

ADMINISTRATIVE SERVICES IN FOREIGN ARMIES

It is not possible to investigate here the various methods adopted in each foreign army to meet these requirements. The system is generally that the *Medical Services* are managed by their own Heads, the *Communication*, or *Telegraph Units* are provided by the Engineers, and the other Administrative Services are regulated by officials called "Intendants," who are attached to Divisional and Army Corps Commands, and have entire responsibility for *Supply*, *Remounts*, *Stores*, and *Finance*. As to *Transport*, each Army Corps has a "Train Battalion," a combatant Unit which provides the Infantry, Cavalry, Engineer, and Medical Units (but not those of Artillery) with the wagons, teams, and drivers they require, and furnishes the Transport Columns for carrying supplies.

The personnel of the Medical Services is similarly furnished by the "Army Corps Medical organization," and the Principal Medical Officers on the Staff of Divisions and Corps administer the Medical Services.

A Director of Medical Services, an Intendant-General, and a Judge-Advocate-General are attached to "General," as well as to "Army," Head-Quarters.

As regards the other Services, the *Veterinary* and *Postal Services*, and the *Chaplains*, do not generally form part of any higher Staffs than those of Divisions.

It will be seen that the system is so designed that in the main the business of Administration in detail falls on the Divisional and Army Corps Commands, while the Army Command is left free to concentrate its attention on the enemy.

The principles on which the Administration of an Army in the Field is organized for war as carried on at the present day, can be best understood by a study of the British Administrative Services. The general lines of their organization will be found described in Chapters IX. and X.

CHAPTER VI

THE STAFF

HEAD-QUARTERS

EACH of the various formations of Troops just described is completed by appointing its Commander and providing him with a *Staff*—that is, a body of Staff Officers to assist him in the duties of Command. The Commander and his Staff form what is known as the *Head-Quarters* of every Command. Those of the Commander-in-Chief are termed *General Head-Quarters*, those of an Army Commander *Army Head-Quarters*, and so on, down to *Brigade Head-Quarters*.

COMPOSITION OF HEAD-QUARTERS

Head-Quarters consist essentially of the *Commander* with his *Personal Staff*, and of the Staff Officers constituting the *Staff* proper, which it is the object of this chapter to describe in detail.

The Personal Staff needs little remark. It comprises the officers acting as *Aides de Camp* to the Commander, and in important Head-Quarters there is also a *Military Secretary*. These officers act as confidential secretaries to their Chief,

carry his Orders, manage his household, and arrange for its movements. Their relations with their Chief are more personal than official, and they are not considered to be Staff Officers.

Besides the Staff, there are generally attached to Head-Quarters a number of other Officers, such as those of Administrative Services, and in some armies Officers of Artillery or Engineers. But these cannot be properly called Staff Officers, as they have only a limited sphere of action in the Command, while they perform definite executive and administrative functions in their own sphere. The action of *Staff Officers*, on the contrary, ranges over the whole Command, but they have no personal responsibility or executive functions. In fact they are useful appendages to each link of the chain of Command, but not actually links in it themselves.

In addition to *Officers*, there are always connected with Head-Quarters a number of subordinates, such as interpreters, clerks, police, printers, lithographers, telegraphists, signallers, cyclists, motor-car drivers, orderlies, and postal employees, as well as grooms, servants, cooks, and drivers for the wagons which transport the offices and baggage of the Head-Quarters.

Head-Quarters are therefore so large as to form virtually a Unit in themselves. This Unit requires a *Commandant*, or Officer responsible for its movement, quartering, and discipline, with perhaps a Quarter-Master-Sergeant to assist him. There would generally be with each Head-Quarters a small body of Military Police to main-

tain discipline, and Medical and Veterinary Officers to take charge of the health of the officers, men, and horses at Head-Quarters. The safety of Head-Quarters is so important that they must be provided also with Infantry to guard them, and Cavalry to form their escort when in rapid movement.

VARIETIES OF STAFF

The number and description of Staff Officers allotted to a Command depend on its importance, and on the duties they have to perform.

The duty of the Staff Officer is defined as follows in British Field Service Regulations: "To assist the Commander in the supervision and control of the operations and requirements of the Troops, to transmit his Orders, and to assist the Troops in carrying them out." In the British Service these duties are divided among three Branches of the Staff—the *General Staff*, the *Adjutant-General's Branch*, and that of the *Quarter-Master-General*.

The Staff has in foreign armies become differentiated into two Branches—the *Routine Staff*, which the Germans style *Adjutantur*; and the *General Staff*, which assists the Commander in all matters directly affecting the fighting. The Prussian General Staff is nearly a century old, and forms in general features a model of the General Staff more recently instituted in other armies. Its development from the Quarter-Master-General's Staff is sketched in the historical part of this work.

A short analysis of the main duties devolving on these different branches of the Staff will now be given.

THE GENERAL STAFF

The purpose of the Commander is to defeat his enemy, and in endeavouring to effect this object he has two main pre-occupations :

1. To watch the movements and forecast the plans of the enemy.

2. To make his own plans, and to decide on the movements and distribution of his forces required to carry them out.

In order that the Commander may devote his whole attention to these vital matters, he should be as far as possible relieved from details, and these fall within the province of his General Staff.

We thus see that the main duties of the General Staff should correspond to those laid down for the General, and may be summed up under the following heads :

1. *Intelligence*, to enable the Commander to watch the enemy's movements, and make his plans.
2. *Operations*, by which his plans are carried out.

Each of these headings comprises an immense amount of detailed work, which cannot be here dwelt on further than to indicate its general scope.

1. *Intelligence* means collecting information about the enemy and the theatre of war, from every possible source, and arranging for its transmission to Head-Quarters, to be examined and collated, and then laid before

the Commander. This subject also includes everything connected with maps and topographical information, as well as Press Censorship, and provision of interpreters and guides.

2. *Operations* include :

(a) Working out details of dispositions and movements of troops, as to their *units* and *numbers*, with especial attention to *place* and *time*, and attention to the security of the troops in movement and at rest.

(b) Embodying the Commander's plans in clear and concise "Operation Orders."

(c) Transmitting these Orders with certainty and despatch.

(d) Watching, and ensuring, their due execution.

The services of *Inter-communication* must be carried on under the control of the General Staff, so as to ensure the rapid transmission of Information to, and Orders from, Head-Quarters.

But in addition to the above responsibilities which fall on the General Staff, there are also Staff duties involved in assisting the Commander to keep his Command in a state of efficiency, which depends on the following requirements:

First, that its organization, discipline, health, and numbers be kept up.

Secondly, that its material wants be met.

These duties do not bear directly on the fighting, and so do not fall to the General Staff, but to the other branches.

THE ADJUTANT-GENERAL'S BRANCH (A.G.)

Duties under the first heading are undertaken by the Staff of the *Adjutant-General*, which deals with the following matters affecting the personnel of the Command: discipline, law, and police; pay, interior economy, and routine Orders; casualties and returns; appointments, promotions, and rewards; reinforcements, and organization of improvised units and local levies; the disposal of prisoners; collecting the wounded and burying the dead. All possible office work in connection with these matters should be done at the Base, so as not to burden the Troops in the Field with clerical work carried on under difficulties.

Since the Adjutant-General's Branch is responsible for the *health* of the Force, the Medical Services are placed under its control in the British Service. In foreign armies they are administered by their own Heads at Head-Quarters of Divisions and Army Corps, under the control of the General Staff.

THE QUARTER-MASTER-GENERAL'S BRANCH (Q.M.G.)

The second heading (supplying the material wants of the Army) comprises, besides the duties of the Medical Services mentioned above, those of the Supply, Store, Transport, and other Administrative Services. The work of the latter is carried out in detail by the Heads of those Services, who are under the control of the *Quarter-Master-General's* Staff in the British Service. In foreign armies, where there is no Q.M.G.'s Staff, they are

under a Civilian Official called the *Intendant*, who works under the control of the General Staff in each Command.

The British Staff Organization, which concentrates these Administrative Services under the Q.M.G., is no doubt a better arrangement. It relieves the General Staff of pre-occupation regarding their working, and minimizes any failure of adjustment between the Field Units and the Services on the Lines of Communication, by charging a special Branch of the Staff with their co-ordination.

STAFF OF SUBORDINATE COMMANDS

The above description of Staff work refers in its entirety only to General, or Army, Head-Quarters, but a similar organization of Staff is applicable on a smaller scale to Head-Quarters of Subordinate Commands. In small Head-Quarters the same Staff Officer may have to undertake more than one set of duties.

IMPORTANCE OF THE STAFF

The importance to the Army of a competent Staff can be judged from the above account of their duties. The Staff forms the nervous system of the Command. The better trained the Staff, the more free will the General be to concentrate his attention on the situation, and his Subordinate Commanders to carry out his plans with co-operating intelligence. Good Staff Officers, it has been well said, are eyes, ears, and hands to their Chief.

NUMBER OF OFFICERS ALLOTTED TO THE STAFF

In organizing the Staff of any Command it is desirable to keep the number of Officers at a minimum, as not only does every appointment to the Staff weaken some fighting unit, but a better selection is possible if there are only a few appointments to fill. There will be also less difficulty in finding accommodation in the field for a small Head-Quarters, and less delay or confusion in moving it. It should not be forgotten, too, that there will not always be enough work for a large Staff to do, and that, when men are not fully occupied, mischief and friction are apt to arise.

CHAPTER VII

WAR ESTABLISHMENTS

THEIR OBJECT AND UTILITY

THE previous chapters, describing the Units of the various Arms, and their grouping into the larger Formations, give only the broad lines of the organization of the Army. The detailed composition or *Establishment* of each Unit is shown in a table giving the numbers of Officers and Non-Commissioned Officers by their ranks, of men according to their various functions, and of horses—riding, draught, and pack. These numbers make up what is termed the *Strength* of the Unit. Similarly, there are laid down Establishments for the larger Formations, which are given in tables showing the Head-Quarters, the numbers of Units of fighting troops and the Administrative Services, and the total numbers of personnel and animals, according to their various categories.

It is convenient to add to these Establishments a statement of the *Transport* of each Unit or Formation, showing the guns, wagons, and carts, of all descriptions, with the drivers and animals required.

The Strength given in Establishments represents

the total numbers of men and animals drawing rations daily in the field, and may be termed the *Ration Strength*. It is often summed up as so many "officers" and "other ranks" (or so many of "all ranks") and horses. The *Fighting Strength* means the number of men actually available for fighting, and the number of guns horsed and manned. The Fighting Strength is generally reckoned as so many *rifles*, or men fighting on foot, so many *sabres*, or mounted fighting men, and so many *guns*. The number of men with the guns is not included in the fighting strength, nor are officers, Staff Sergeants, or Drivers. But all Cavalry officers, even the Commanders and Staff, might strictly be counted as "sabres," as they actually fight with the same arm as the men, which Infantry officers do not.

It will be observed that in the larger Formations there is a great discrepancy between the *Total Strength* and the *Fighting Strength*. This is due to the numbers of men employed for non-combatant functions, or in the auxiliary services, and of horses required for transport. Thus, in a German Army Corps the total strength is 41,000 men, 14,000 horses, and 2,400 vehicles; while the fighting strength is 25,000 rifles, 1,200 sabres, and 126 guns. In the British Cavalry Division the total strength is nearly 10,000 men and horses, and 550 vehicles; while the fighting strength is under 6,000 sabres, with 24 machine guns and 24 guns.

Tables of War Establishments furnish a complete statement of the Organization for war. On them are founded the necessary calculations for

mobilizing the peace army, for its transport by sea or rail to the theatre of war, and for its supply with food, ammunition, clothing, and stores.

The *mobilization* of a Unit for war may be defined as providing it with the men and animals required to complete its War Establishment, and with its *War Outfit*, or the matériel of all kinds with which it has to be furnished for War. This War Outfit is in the British Service considered under the following heads :

- (a) The *Personal Kit* of each soldier—that is, his *clothing* and small *necessaries*.
- (b) *War Equipment*, which is *personal* or *regimental*.

Personal Equipment comprises the Arms and Ammunition carried, and the Accoutrements worn, by each soldier.

Regimental Equipment comprises guns, reserve of ammunition, vehicles, harness, saddlery, stationery, butchery and cooking utensils.

- (c) *Regimental Supplies* of food and forage.
- (d) The *Medical and Veterinary Equipment* allotted to the Unit.

These Establishments are laid down for the most important, or the most likely, wars which the nation may have to wage. They represent the normal requirements, which are those of a campaign in a civilized country, and in a temperate climate. The tables would be altered in the case of war under other conditions, such as in hot or cold climates or seasons, in mountain warfare, in

fighting savages, in quelling civil insurrection, or when a force is designed for special and limited operations, such as a raid, or the capture of an oversea fortress.

Instances of such improvised organization may be found in most British campaigns of the past two centuries, and of late years in the Expeditionary Forces sent by France to Madagascar, by the United States to Cuba, and by Germany to South-West Africa.

STATES AND RETURNS

War Establishments by no means represent the real strength during a war. It may happen that the Army engages in the war without its war establishment being completed. But even if each unit were at its correct war establishment when entering on the campaign, this will not long represent its actual strength. Sick and stragglers waste the ranks daily. After fighting, the missing, wounded, and dead have to be deducted. From time to time reinforcements are added in irregular numbers.

Besides the wastage of units, the whole force at the front is apt to become reduced by detachments being taken to guard communications, to escort prisoners or convoys, to garrison fortresses, or to undertake sieges. Napoleon considered that out of every 8 men in an army, only 5 could be counted on as available for the decisive battle of the war.

It is, however, essential for every Commander to be kept informed of the state of his Command for fighting purposes, which the Establishments do

not show. This information is supplied by every Commanding Officer of a Unit in a document called a *State*, rendered, as a rule, daily. The *State* shows the fighting condition of the unit, its strength in officers, men, horses, and guns, the amount of ammunition in hand, as well as any other points affecting its fighting efficiency. A *State* may be rendered by telegraph, or even verbally, to ensure its prompt arrival.

Returns of strength are also made by every Commanding Officer. These differ from *States* in being rendered at longer intervals, so that they can be more deliberately and accurately made out. They are used for purposes of record and accounting.

REINFORCEMENTS

The importance of keeping up the effective strength of the Army cannot be exaggerated. Drafts of reinforcements should be prepared at the outset, and the supply continuously maintained. There is no principle of organization more clear than the necessity of keeping the existing units up to strength, and not reinforcing with new units, even if the numbers added to the Army be the same in both cases. New units are not so efficient as the weak old ones reinforced by fresh men. They will soon become mere skeletons like the old units, after which the Army will consist of a great number of very weak units—a state of things very detrimental to Command and force of action.

The wastage of war falls mainly on the Infantry, whose losses in battle and sufferings on the march

exceed those of other Arms. Far more losses are incurred on the march than in the fighting. Marching is the rule of the soldier's life in war, fighting the exception. Infantry wastes away like snow in the sun, as it marches; footsore men fall out, and fatigue and privations cause illness. The statistics of the diminution of the two finest of the Prussian Corps in 1870 are most striking. The Third Corps, which fought so well at Spicheren on the 6th August, and magnificently at Vionville on the 16th, losing in these battles 350 men per battalion, dropped 200 per battalion on the road. The Guards, who entered France with 30,000 Infantry, had only 13,000 rifles after Sedan, a month later, and 8,000 when they reached Paris, their loss in battle being only 8,350. The battalions therefore had lost 300 men on the road, apart from fighting, during the first six weeks of the war.

In a hard campaign it seems likely, therefore, that a loss of at least 100 men per battalion per month must be expected during hard marches, besides losses in fighting which may amount to more. Some Prussian Regiments lost from 300 to 500 men per battalion during one day's fighting in 1870.

The strength of Head-Quarters of Commands, and of Administrative Services, remains fairly constant during a campaign, as does the number of guns. Mounted men waste less than Infantry, as they do not become footsore, and do not carry the weight of their equipment, which rests on the horse.

To remedy the wastage of war, the British organization provides for each Unit proceeding to the theatre of operations a Reserve, extra to its

Establishment, amounting to 10 per cent. of its number of rank and file. These men are at first retained at the Base, so as to be readily available, and are called the "First Reinforcements." It is calculated that subsequent reinforcements, amounting to some 60 per cent. of the total strength of the Force, but mainly required for the Infantry, are likely to be sufficient to replace the wastage of the first year of a war. For the British Expeditionary Force of 153,000 in the Field the strength of First Reinforcements is 14,000 and that of subsequent Reinforcements will probably be about 2,700 officers and 75,000 men.

EVILS OF IMPROVISED ORGANIZATIONS

It might be considered that the larger formations of all Arms need not be permanently organized, but might be improvised for War. This was formerly the system in all armies, and persisted in the British Service until a few years ago; while in the United States there is even now no higher unit than the Regiment. But improvised bodies of troops are not so efficient as permanent formations. This could be shown by many examples from history. The force defeated at Majuba was formed of Companies of several Regiments, and in 1870 the working of the German Cavalry Divisions, which were formed only on mobilization, left much to be desired.

There are several advantages in assembling troops, in permanent Commands. In the first place, the training together of all Arms, and of their various units, creates confidence throughout the force.

It can be easily seen how they will learn to know each other's methods of action, and to rely on their mutual co-operation. For instance, it has been found how much better Artillery supports the other troops of its own Division, whom it has been accustomed to work with.

In the second place, where Staff Officers work constantly together, and understand each other, their work will be better and more rapidly done. Also, when troops are accustomed to work with the same Staff, Orders can be short and concise, and therefore more quickly drafted, and better understood. All this saves time, and much increases the mobility on which depends success in manœuvring.

In the third place, it is most desirable that the Chief should know his Staff and still more his Subordinate Commanders. He will thus be able to apportion to each officer a task suited to his qualifications. This tends to efficiency in Command.

The Administration, too, of improvised units always leaves much to be desired. The Administrative Services of each portion may be permanent and adequate, but additional ones will be required for the new Unit, as well as improvised Headquarters. MacMahon's failure at Wörth was partly due to his having to command a detached Army with only the Staff of his own Army Corps.

IMPORTANCE OF PRESERVING ORIGINAL ORGANIZATION

The organization of a force regulates the conditions of its command and administration, and

should be altered during the war only if it be absolutely necessary to do so. Any alteration interrupts the accustomed channel for Orders, necessitates changes in Commanders and Staff, and disorganizes the system of Supply. An improvised unit, it has already been shown, is never so efficient as a permanent one, and to form one will rob some existing units to provide the new Commander and Staff. Change in organization, therefore, makes control less effective, and tends to confusion in administration, and to general diminution of efficiency in the Force.

At the same time, the original organization must not be regarded as immutable, if the Commander-in-Chief considers it necessary to alter it. This is definitely laid down in Field Service Regulations, Part ii., sect. 8, pars. 6 to 10. A redistribution may become imperative for reasons of Strategy or Command, but fewer occasions for this necessity will arise if the original organization has been well thought out, so as to meet all requirements which can be foreseen. In the South African War the organization by Army Corps was given up at the beginning, and has never been revived. But in this connection it may be submitted that the frequent formation of improvised sub-commands for special purposes was responsible for loss of force in their leading, which sometimes entailed failure, as in the case of De Wet's escape.

It is a rule that units should, if possible, be kept intact when forming detachments like Advanced Guards, or those for special operations, which should not be formed out of fragments of several

units, like the force defeated at Majuba Hill in 1881.

THE ORDRE DE BATAILLE

In planning the movements of a force it is desirable to keep the Sub-Commands in the same relative position throughout. Thus, a corps originally on the right of another should not get to the left of it, nor one in rear pass another in front of it. This will avoid useless marching and delays, and confusion in the trains in rear.

This may be summed up as the principle of maintaining the original *Ordre de Bataille*. This expression, which originally meant the "battle array," or order in which the Army was drawn up for battle, is sometimes used to denote the strategical array, or the composition and distribution of the various formations which make up the Army. The *Ordre de Bataille* has no longer any reference to their relative positions on the battle ground, which necessarily change with the circumstances of each engagement. But this document is still indispensable for an army. No Orders can be drafted except by referring to it, and without it the direction and control of an army would be impossible. A knowledge of the *Ordre de Bataille* of the enemy—that is, of the composition and distribution of the Subordinate Commands of his army—is obviously of the first importance in planning movements and combinations against him. It can generally be arrived at from a study of his peace organization and his railway facilities for concentration, corrected

by any information procurable as to the position of his troops. This information may come from various sources, such as newspaper reports of the progress of his concentration, captured documents and letters, deserters, and spies. After an action, the insignia on the uniforms of dead, wounded, and prisoners, the lettering of captured guns, wagons, and baggage, give valuable hints as to the units engaged. It is open to question whether such information might not be withheld from the enemy.

In the Manchurian War the Japanese carefully avoided helping the enemy by indicating units on uniforms, and instructed their men, when wounded or captured, to refrain from stating their Corps. They increased the strength of their Divisions, altered the number of Divisions composing each Army, and even formed an additional Army out of time-expired reserves, without the facts leaking out. This greatly hindered the Russians from estimating the Japanese strength in the different sections of the great battles.

Napoleon made a practice of allotting larger numbers to the Army Corps and Divisions commanded by his best Generals, and this irregularity was increased by his constantly raising additional battalions and squadrons to meet special exigencies, and by incorporating foreign contingents in his armies. The result was, the French *Ordre de Bataille* was so irregular as to make any *a priori* calculation of strength on the part of his enemies of doubtful value.

The difficulty consequently found by the his-

torian in calculating the strengths, and following the movements, of the French Armies in the Napoleonic Wars is a measure of that which his enemy's Staff must have met in arriving at a definite idea of the strength and disposition of the French Forces at any given moment.

It is plain that the modern aim of making organization so logical and methodical that the Staff can more easily plan operations, and write correct Orders, had little weight with Napoleon. He was himself his own Chief of the General Staff, and had a memory which no complexity could confuse. It may be a question whether modern symmetry of organization may not be really injurious to success, because highly informing to the enemy. Simplicity and symmetry are obviously useful in saving difficulties to the Staff; but this advantage may be bought too dearly, and a complicated and illogical organization might be the best for war, so as to prevent the enemy acquiring information.



PART II

BRITISH WAR ORGANIZATION

CHAPTER VIII

THE EXPEDITIONARY FORCE

FIGHTING TROOPS

THE British Troops organized for service in the field consist of the *Expeditionary Force*, formed by the Regular Army and its Reserves, and the *Territorial Force*, composed of troops which are virtually Militia, undergoing only a slight annual training, and engaged in their civil avocations during the rest of the year. To these may be added the regular troops in the Mediterranean (Gibraltar, Malta, and Egypt), and in South Africa, from which a Division may be formed to add to the Expeditionary Force. The forces of the self-governing Dominions need not be considered. They are hardly as yet organized as Field Armies, and are kept up for Local Defence. There is also the *Indian Army*, composed of regular troops, British and Indian.

The *Expeditionary Force* corresponds to what in foreign countries is termed the Army of *First Line*, and the *Territorial Force* to the Army of *Second Line*; the former being intended for action against our enemies abroad, and the latter for Home Defence.

THE EXPEDITIONARY FORCE

The *Expeditionary Force* comprises essentially the following bodies of Troops :

One *Cavalry Division*, as Independent Cavalry.

Two *Mounted Brigades*, as Army Protective Cavalry.

Six *Infantry Divisions*, to which may eventually be added a seventh from the Mediterranean and South Africa.

The Force will be provided with a *General Head-Quarters*, and with an *Army Head-Quarters* if it is proposed to divide it into two Armies.

There will also be allotted to the Force certain Units under the immediate command of the Commander-in-Chief, termed "Army Troops." Some of these Units will also be allotted to any separate Armies which may be formed.

Units of Troops will also be provided for duties on the Lines of Communication. These will consist of the "L. of C. Defence Troops," and of the Head-Quarters and Administrative Services on the Lines of Communication.

The composition of the various Head-Quarters, and the number and nature of the Units of Army Troops, and of the Units on the L. of C., will depend on the conditions of the campaign, which will vary according to the enemy to be encountered, the climate and nature of the theatre of war, and the character of the Lines of Operations and Communications.

It was explained in the previous chapter that in

order to allow of normal Establishments to be drawn up, the assumption is made that the war will take place in a civilized country and in a temperate climate. A *normal* Line of Communications is also assumed, consisting of a Seaport or a Base, a railway from it 100 miles long, and two lines of road 30 miles long from Railhead to the Advanced Bases.

The following pages show the composition of the whole Force and of the various Subordinate Commands forming it, as well as that of the various Head-Quarters, the "Army Troops," and the Troops on the Lines of Communication. The Establishments of the various Fighting Units are also given, followed by a table of their strength in round numbers of officers, men, and horses actually belonging to the Unit.

Some notes on the general principles on which the Establishments have been drawn up will first be given.

A *Medical Officer* is attached to each unit, and a *Veterinary Officer* to each mounted unit.

Two to five men of the *Medical Corps* are attached to each unit, according to its strength.

A *Bâtman*—that is, an officer's servant or groom—is provided for each Officer, and a second one if he has more than one horse. Bâtmen are armed and trained soldiers, taken from the unit, and available for duty in its ranks.

Draught Horses are allotted as follows: six to each gun or ammunition-wagon, four to each wagon, and two to each cart. Spare horses are provided at the rate of 10 per cent. of the total.

One *Driver* is provided for each pair, and 10 per cent. of *spare drivers* are added, but this number is 5 per cent. in the case of Divisional Ammunition Columns, and T. and S. Parks.

Two *Trumpeters*, *Drummers*, or *Buglers*, are allotted to each Squadron or Company of Fighting Troops.

The *Regimental Sergeant-Major* is a Warrant Officer. There is one in each Cavalry Regiment, Infantry Battalion, and Artillery Brigade.

EXPEDITIONARY FORCE

COMPOSITION OF SUBORDINATE COMMANDS

CAVALRY BRIGADE

Head-Quarters.

3 Cavalry Regiments.

CAVALRY DIVISION

Head-Quarters.

4 Cavalry Brigades.

Cavalry Divisional Troops:

Cavalry Divisional Artillery:

Head-Quarters.

2 Horse Artillery Brigades.

Cavalry Divisional Engineers:

Head-Quarters.

4 Field Troops.

1 Wireless Telegraph Company.

1 Transport and Supply Column.

4 Cavalry Field Ambulances.

INFANTRY BRIGADE

Head-Quarters.

4 Infantry Battalions.

DIVISION

Head-Quarters.

3 Infantry Brigades.

Divisional Troops :

Divisional Mounted Troops :

2 Mounted-Infantry Companies.

Divisional Artillery :

Head-Quarters.

3 Field Artillery Brigades.

1 Field Artillery (Howitzer) Brigade.

1 Heavy Battery and Ammunition Column.

1 Divisional Ammunition Column.

Divisional Engineers :

Head-Quarters.

2 Field Companies.

1 Divisional Telegraph Company.

Administrative Services :

1 Divisional Transport and Supply Column.

1 Divisional Transport and Supply Park.

3 Field Ambulances.

MOUNTED BRIGADE

Head-Quarters.

2 or 1 Cavalry Regiments.

1 or 2 Mounted-Infantry Battalions.

1 Horse Artillery Battery and Ammunition Column.

1 Transport and Supply Column.

1 Cavalry Field Ambulance.

ARMY TROOPS

2 Mounted Brigades, to act as Army Protective Cavalry.

2 Squadrons, }
1 Infantry Battalion, } as Escort for Head-Quarters.

2 Cable Telegraph Companies, }
2 Air-line Telegraph Companies, } Communication Units.
3 Balloon Companies, }

2 Bridging Trains.

1 Transport and Supply Column.

2 Field Ambulances for the Army Troops.

THE EXPEDITIONARY FORCE 83

STRENGTH OF FIELD FORCE AND OF ITS MAIN SUBDIVISIONS

STRENGTH OF SUBORDINATE COMMANDS

The following are, *in round numbers*, the strengths of the Expeditionary Force and of its component portions :

	All Ranks.	Horses.	Machine Guns.	Guns.	Vehicles.
Cavalry Brigade .	1,700	1,800	6	—	55
Cavalry Division .	9,800	10,000	24	24	600
Mounted Brigade .	2,300	2,350	6	6	135
Infantry Brigade .	4,150	300	8	—	65
Infantry Division .	19,700	7,300	24	76	1,200
Six Divisions .	118,000	43,700	144	456	7,200
Army Troops .	8,400	7,000	14	12	600
FIELD UNITS .	136,500	62,000	182	492	8,000
On the L. of C. .	17,000	7,000	4	—	1,200
TOTAL FIELD FORCE	153,500	69,000	186	492	9,200
First Reinforcements at Base .	13,500	1,000	—	—	—
GRAND TOTAL	167,000	70,000	186	492	9,200

TOTAL BY ARMS

TOTAL STRENGTH OF EACH ARM AND SERVICE, IN ROUND NUMBERS

Infantry	84,000	all ranks.
Cavalry	9,000	„
Mounted Infantry	4,000	„
Artillery	32,000	„
Engineers	7,500	„
Army Medical Corps	9,500	„
Army Service Corps	16,000	„
Other Services and H.Q.	5,000	„
TOTAL .	167,000	

This total includes some 6,000 Officers.

ESTABLISHMENTS OF UNITS

INCLUDING THOSE ATTACHED—VIZ. MEDICAL AND VETERINARY OFFICERS, MEN OF MEDICAL CORPS AND ARMY SERVICE CORPS FOR 2ND LINE TRANSPORT

	Officers.	Warrant Officers, Staff Sergeants, Sergeants.	Artificers.	Trumpeters, Buglers, or Drummers.	Rank and File.	Total all ranks.	Horses or Pack Mules.
CAVALRY : Squadron	6	10	8	2	138	164	175
Machine-Gun Section	1	1	—	—	23	25	33
Regiment	25	38	28	6	456	553	590
ARTILLERY : Horse Artillery Battery	5	9	9	2	183	208	234
Field Battery	5	9	9	2	178	203	180
Howitzer Battery	5	9	9	2	166	191	158
Heavy Battery	5	8	8	2	148	171	118
Heavy Battery with Ammunition Column	6	9	12	2	201	230	177
Field Artillery Brigade	25	38	42	9	850	964	959
Field Artillery Brigade Ammunition Column	5	10	14	2	285	316	389
Divisional Ammunition Column	20	15	44	2	748	829	1,048
Divisional Ammunition Column, one Section	4	3	11	—	181	199	253
ENGINEERS : Field Troop	3	4	2	1	74	84	81
Field Company	6	8	1	2	198	215	73
Bridging Train	7	9	5	2	211	234	331
Communication Units — see Services, in next Chapter.							
INFANTRY : Company	3	5	—	2	110	120	2
Machine-Gun Section	—	1	—	—	15	16	5
Battalion	29	51	—	16	928	1,024	71
MOUNTED INFANTRY : Company and Battalion identical with Cavalry Squadron and Regiment.							
ADMINISTRATIVE SERVICES : See details under head of each in following Chapters, IX and X.							

STRENGTH OF UNITS OF FIGHTING TROOPS

The following figures are in round numbers, and show officers, men, and horses belonging to the unit. They do *not* include those attached—namely: Medical and Veterinary Officers, Armourer Sergeants, men of the Medical Corps, and the 2nd Line Transport provided by the Army Service Corps.

	Officers.	Men.	Horses.
CAVALRY : Squadron	6	155	170
Regiment	23	510	560
ARTILLERY : H.A. Battery	5	195	220
Field Battery	5	195	170
Howitzer Battery	5	180	150
Heavy Battery	5	160	110
H.A. Brigade	17	650	770*
Field Brigade	23	910	900*
Field Brigade Ammunition Column	5	300	270
Divisional Ammunition Column	18	780	990
ENGINEERS : Field Troop	3	80	80
Field Company	6	150	70
Bridging Train	5	230	330
INFANTRY : Company	3	120	2
Battalion	28	980	50
MOUNTED INFANTRY : Company	6	155	170
Battalion	23	510	560

* With Ammunition Column.

COMPOSITION OF HEAD-QUARTERS

The following tables give the number of officers in the several Head-Quarters comprised in the Force.

GENERAL HEAD-QUARTERS

Commander-in-Chief and Personal Staff .	6
General Staff	11
A.G. and Q.M.G.'s Staffs	8
Heads of Administrative Services	15
Other officers	15
Other ranks	nearly 200

ARMY HEAD-QUARTERS

Similarly composed, but with fewer officers.

HEAD-QUARTERS OF THE LINES OF
COMMUNICATION

General and A.D.C.	2
General Staff	2
Other Staff	7
Other officers (Administrative Services) .	26
Other ranks	about 100

HEAD-QUARTERS OF THE BASE

Commandant and Staff	5
Other officers (Administrative Services)	18
Other ranks	about 40

HEAD-QUARTERS OF A DIVISION (INFANTRY OR CAVALRY)

Major-General and A.D.C.'s	3
General Staff	3
A.G. and Q.M.G.'s Staffs	2
Other officers	7
Other ranks	about 70

HEAD-QUARTERS OF A BRIGADE OF CAVALRY OR INFANTRY, OF MOUNTED BRIGADES, AND OF DIVISIONAL ARTILLERY

Brigadier-General and A.D.C.. . . .	2
Brigade Major	1
Staff Captain (none in Infantry Brigades)	1
Brigade Signalling Officer	1
(none in Divisional Artillery)	
Other ranks	30 to 40
„ „ in Divisional Artillery	20

The above does *not* include officers of the “Army Motor Reserve,” who are attached to all these Head-Quarters, except those of Cavalry and Infantry Brigades and Divisional Artillery.

CHAPTER IX

THE EXPEDITIONARY FORCE (*continued*)

ADMINISTRATIVE SERVICES

A DESCRIPTION will now be given of the organization of the British Administrative Services designed for the Expeditionary Force of six Divisions with a Cavalry Division and two Mounted Brigades.

At the head of each Administrative Service is a *Director*, who is the adviser of the C.-in-C. on technical matters connected with the Service he administers. He is responsible for providing for the requirements which his Service is designed to meet, subject to the instructions of that branch of the Staff to which the C.-in-C. has delegated his authority in this respect.

A representative of each Director is allotted to the Staff of the L. of C. and of the Subordinate Commands, to whom he holds the same position as his Director does to the Staff of the C.-in-C. The Services are thus kept in close touch with the Staff, so as to conform readily to the movements and requirements of the Troops.

The following is a list of the Directors, and shows the nature of the duty of the Administrative Service which each directs.

Director of Army Signals: Service of inter-communication.

Director of Army Medical Services: Care of the sick and wounded; sanitation.

Director of Army Transport: Provision of transport.

Director of Army Supplies: Provision of food, forage, fuel, and light.

Director of Army Ordnance Services: Provision of ammunition, equipment, clothing, and stores.

Director of Army Veterinary Service: Care of animals.

Director of Army Remounts: Providing fresh horses.

Director of Army Railways: Working of railways.

Director of Army Works: Engineer works on the I. of C.

Director of Army Postal Services.

The Service of Army Signals is controlled by the General Staff, and the Medical Services by the Adjutant-General's Branch, for the reasons previously explained, in describing the organization of the Staff, in Chapter VI. All the other Directors, and their representatives with Subordinate Commands, work under the supervision of the Quarter-Master-General's Branch of the Staff.

Besides the above Directors, and the Administrative Services they control, the following Officials and Departments form part of the General Head Quarters of the Army in the Field.

A *Deputy Judge-Advocate-General*, for legal

advice, and a *Principal Chaplain* are attached to Head-Quarters of the C.-in-C., and are placed under the Adjutant-General.

An *Accounts Department*, under the Financial Adviser attached to Head-Quarters, and a *Record Office*, to deal with correspondence, will be established at the Base.

Of the officers enumerated above, the first four Directors, those of Army Signals, Medical Services, Transport, and Supplies, accompany General Head-Quarters in the field. The remainder are usually attached to the Head-Quarters of the Lines of Communication, where the Services they administer are mainly employed.

ORGANIZATION OF THE LINES OF COMMUNICATION

It is desirable, therefore, that a sketch of the organization of the Administrative Services should be prefaced by one of that of the Lines of Communication (L. of C.), on which they mainly act. The normal L. of C. for which these Services are calculated is a Railway 100 miles long reaching from a Sea Base to Railhead, and thence by two roads 30 miles long to two Advanced Bases.

The *defence* of the L. of C. is now entirely separated from its *administration*, and is entrusted to an Officer styled the *Commander of L. of C. Defences*, who is also responsible for its military government when in hostile territory. To this officer are allotted certain "L. of C. Defence Troops" (two battalions for the normal L. of C.

laid down). The L. of C. is divided into sections for defence, each under a subordinate "L. of C. Defence Commander."

The *administration* of the L. of C. is vested in an Officer styled the *Inspector-General of Communications*, who has command over all the Administrative Services on the L. of C., controls their working, and regulates the traffic on the L. of C. He has a Staff, to which are attached the Heads of the Administrative Services, or their representatives. The L. of C. consists essentially of one or more *Advanced Bases* close in rear of the Army, a *Railhead* (beyond which railway service is not organized), various intermediate *Sections*, or *Posts*, as required, and, most important of all, the *Base*, at the end farthest from the front, and nearest home. The sections may be conterminous with the sections of defence. For each of these portions of the L. of C. there is an Administrative Commandant in charge of its interior economy, and responsible for forwarding the traffic on the L. of C. through his section.

Each of the Administrative Services will now be discussed in detail; those which are in part with the Fighting Troops at the front being described in this chapter, those which are entirely on the L. of C. in the next.

1. SERVICE OF INTER-COMMUNICATION

It is only in the armies of England and the United States that a complete system of inter-communication between all parts of the Army has been organized. Such a system has not been fully developed in foreign armies, but its necessity is more than ever pressing, owing to the wide dispersion of forces in war, and the need for rapid transmission of *Information* as to the enemy's movements from the Front to Head-Quarters, and of *Orders* from the several Head-Quarters to the Troops.

The means of communication in war are :

Electric : i.e. Telegraph, telephone, wireless.

Visual : i.e. Flag, lamp, or heliograph.

Manual : i.e. Orderlies (mounted, bicycle, or foot); a system of relay posts served by despatch riders; motor cars or motor cycles.

Balloons, aeroplanes, and kites.

Balloons were first used by the French at the Battle of Fleurus in 1794, and are being experimented on by many nations at present. There will be six balloons, of which three can be worked at one time, with the British Army of six Divisions, and probably two balloons to each German Army Corps.

The whole system of inter-communication in the British Expeditionary Force is under the *Director of Army Signals*, who is at General Head-Quarters, in close connection with the General Staff.

Communication Units are provided for General Head-Quarters and Divisions, and also on the L. of C., as follows :

Cavalry Division : 1 Wireless Telegraph Company.

Infantry Division : 1 Telegraph Company.

General Head-Quarters : 2 Cable Telegraph Companies ; 2 Air-line Companies ; 3 Balloon Companies.

Lines of Communication ; 2 Telegraph Companies.

The following are the details of the communication provided by these units, and of their composition :

WIRELESS TELEGRAPH COMPANY

The *Wireless Telegraph Company* provides communication between General Head-Quarters and the Cavalry Division, up to 80 miles, and also inter-communication in the Cavalry Division, between Head-Quarters and the Brigades, up to 20 miles.

The Company is composed as follows : A Head-Quarters Section, for communication with General Head-Quarters, and with detached Brigades ; three Sections for three detached Brigades (the fourth Brigade being with Divisional Head-Quarters). Each of these Sections carries its wireless equipment in a wagon, but is also provided with 3 pack horses to carry it. The Head-Quarters Section has equipment for 5 large stations—one for communication with the three Sections, two detached to

General Head-Quarters, and two for communicating with the latter. These duplicate stations allow of one pair being ready for work while the other pair are moving into new positions as the Head-Quarters advance.

The strength of the Company is 136, with 114 horses—namely: 5 Officers, 6 Sergeants, 4 Artificers, 1 Trumpeter, 120 rank and file, of whom 60 are available for the telegraph work.

There are 16 wagons, 46 riding horses, and 4 bicycles.

DIVISIONAL TELEGRAPH COMPANY

The Divisional Telegraph Company provides for internal communication in the Division. It comprises 3 Detachments, each providing a line of cable 10 miles long, with 3 telegraph offices for communication with the 3 Brigades.

The strength of the Company is 61, with 41 horses—namely: 2 Officers, 3 Sergeants, 1 Artificer, 55 rank and file, of whom 35 are available for the telegraph work.

There are 6 wagons, 21 riding horses, and 1 bicycle.

ARMY TROOPS TELEGRAPH COMPANIES

There are 2 “Cable Companies” and 2 “Air-line Companies” at General Head-Quarters. The former provide temporary communication between General Head-Quarters and Divisions or Army Detachments; the latter, communication of a more permanent character between General Head-Quarters and the Advanced Base.

The "Cable Company" comprises a Headquarters, and four Sections, or 9 detachments, each providing 10 miles of cable line, and 3 telegraph offices.

The strength of the Company is 176, with 125 horses—namely: 6 Officers, 7 Sergeants, 4 Artificers, 2 Trumpeters, 157 rank and file, of whom 100 are available for the telegraph work.

There are 19 wagons, 61 riding horses, and 1 bicycle.

The "Air-line Company" comprises a Headquarters and three Sections, each of 2 detachments, providing 20 miles of air-line, 8 miles of cable, and 6 offices.

The strength of the Company is 225, with 158 horses—namely: 6 Officers, 12 Sergeants, 5 Artificers, 2 Trumpeters, 200 rank and file, of whom 120 are available for the telegraph work.

There are 22 wagons, 52 riding horses, and 1 bicycle.

BALLOON COMPANIES, FOR RECONNAISSANCE

Three Balloon Companies are allotted as Army Troops, each to work one balloon and one set of kites, with telephones to connect the observer up in the captive balloon or kite with the ground.

The strength of a Company is 67, with 52 horses—namely: 3 Officers, 3 Sergeants, 1 Artificer, 1 Bugler, 59 rank and file, of whom 30 are available for the ballooning work.

There are 3 wagons for equipment, 6 reservoir wagons for gas, 8 riding horses, and 1 bicycle.

Note.—In the strength of all the above Engineer Units are included 2 men of the Medical Corps attached.

The above network of telegraphic inter-communication, extending between all Head-Quarters, is supplemented within the Units of the Field Force by a system of *Signalling*.

Each Division has a Divisional Signalling Officer, with a small detachment of Signallers—4 men in the Cavalry Division, and a Sergeant and 6 men in the Infantry Division.

Each Brigade has a Brigade Signalling Officer and 4 Signallers.

Each Cavalry Regiment and Mounted Infantry Battalion has a Signalling Sergeant, with 27 Signallers (9 per squadron).

Each Infantry Regiment has a Signalling Officer and Sergeant, with 32 Signallers (4 per company).

Each Divisional Artillery Head-Quarters has 4 Signallers.

Every Artillery Brigade has 2 Signallers.

Every Battery has 5 Signallers.

A system of *Telephones* is, in addition, provided for each Infantry Brigade. There is a Telephone Detachment to work under the Brigade Signalling Officer. It consists of a N.C.O. and 5 privates, with a cart and a pack mule to carry the equipment, for which 2 drivers are allotted.

2. TRANSPORT

Road Transport alone will be here considered. This is the most important of the Administrative Services, as on it depend the mobility of the Force, and the working of the Supply, Medical, and Stores Services. Transport is required with the Units at the front, to carry the baggage and stores of the troops, and their ammunition and food for daily consumption, and to enable field ambulances to accompany the army. Transport is also required on the Lines of Communication, to bring up ammunition and food from the base to the front, and to remove the wounded to the base.

It is agreed that Transport must be organized on a military basis when accompanying troops at the front, where civil transport is hardly dependable; but to provide the vast amount required in rear of the army on the L. of C. would demand more military Transport than could be kept up in peace, and *Auxiliary Transport* has to be collected from civil services for this purpose.

It is obvious that without a carefully worked out system of organization for its Transport, an army in the field will be helpless from want of ammunition and food, and slow and uncertain in its movements; the sick and wounded will lack attention; and the troops cannot fail to undergo hardships and privations, which will have a bad effect on their *morale* and fighting power.

Owing to the enormous amount of food required for an army, the main function of the Transport is to carry *supplies*, so that the connection between

Transport and Supply is a very intimate one. It has been found desirable, therefore, to amalgamate the administrative units which effect these two services. Those who are responsible for providing food should also be responsible for moving it. The administrative units of the combined services of Transport and Supply are provided by the Army Service Corps, as shown in detail in the next section of this chapter. The Officers of this Corps are trained both for Transport and Supply duties. Their identical training and their organization together in one unit tends to produce co-operation in both services of Transport and Supply, and should minimize any chance of failure in war. The fact that all officers are interchangeable between these services also gives an elasticity to the system which is wanting when they are separate.

REGIMENTAL TRANSPORT

The Transport with the Units in the field is called *Regimental Transport*, in distinction from the Transport on the Lines of Communication, and consists of two categories :

- (a) Transport of Fighting Units, including all Head-Quarters. This Transport is divided into *First Line*, and *Second Line*, Transport.
- (b) Transport of Administrative Units—*i.e.* Ambulances, Supply Columns, and Supply Parks.

(a) *First Line Transport* forms an integral part of each fighting unit; the unit provides its own

drivers and superintendence for its transport, which accompanies it at all times. The First Line Transport carries on wheels (or by pack) all that the unit requires for fighting—namely: guns, ammunition, entrenching tools—besides signalling, medical, veterinary, and other technical equipment.

Second Line Transport for all units is provided by the A.S.C., to carry the baggage, supplies, stores, and water which the unit requires to have with it when at rest. This transport is not required for fighting, and, when near the enemy, does not accompany its unit, but is all massed in rear of the fighting troops, but able to rejoin its various units in a few hours. The water carts alone may at times accompany the troops.

The stores carried include cooking utensils and butchers' implements, artificers' tools and material, office books and stationery; also, when specially required, blankets, tents, and fuel.

The supplies carried are indicated later in the description of the *Supply Service* which follows.

Transport for each Head-Quarters is all furnished by the Army Service Corps (A.S.C.).

(b) Transport of Administrative Units.—This is provided also by the A.S.C., and is described in the two following sections of this chapter, under the heading of the Supply Services and Medical Services.

TRANSPORT ON THE LINES OF COMMUNICATION

The Transport on the Lines of Communication¹ is controlled by the representative of the Director of

Transport at Head-Quarters of the L. of C. It is carried on by *Auxiliary Transport Companies*, composed generally of non-military wagons, teams, and drivers, under the control of a small personnel of Army Service Corps. Mechanical Road Transport is likely in the future to be very largely employed on the L. of C. to work from railhead to the Units of field troops at the front.

In the British Army organization the details of the L. of C. Transport are as follows :

Twelve Auxiliary Transport Companies of 50 wagons, and six of 100 wagons, are formed. Each has an A.S.C. personnel of 3 Officers and 54 other ranks, with 10 riding horses. Every 50 wagons require 115 drivers and 210 horses, including 5 per cent. spare.

In case the local transport is formed of carts, the Auxiliary Company has an A.S.C. personnel of 1 Officer and 28 other ranks. Every 50 carts require 58 drivers, and 105 horses, including spare.

There are four units called *Transport Depôts*, each with a personnel of 3 Officers and 93 other ranks, organized in four Sections ; each Section can form a small dépôt on the L. of C., providing a reserve of horsed transport to replace wastage, and a repairing section for mechanical transport.

Transport for local work at the Base, and at posts on the L. of C., is improvised from civil sources, as it requires no great degree of mobility, and, working locally, and at a distance from the enemy, can be easily kept under supervision.

3. SUPPLY

Experience teaches that supplies of food can only be furnished to troops during war in three ways :

- (a) The men may be fed by the occupants of the houses where they are billeted.

This is only possible in towns, or in the country when the troops are much scattered, and when the Army is moving continuously, and the troops do not remain more than a day or two in one place.

- (b) Food may be obtained from the country by purchase, or by requisition, which must always be carried out in a regular manner by responsible officers, or waste, confusion, and individual looting and terrorism will ensue.

- (c) Food may be drawn from the L. of C. and issued by the Supply Service.

A combination of all three methods is generally practicable. The food available in the country should be used as far as possible, so as to avoid straining the resources of the Supply Service, and the capacity of the Lines of Communication.

Under the average conditions of country and climate for which the British normal regulations are designed, it may be expected that fuel, water, hay and straw, and cattle, will be obtainable in the country. Thus only bread and groceries, and corn for horses, have normally to be conveyed to the troops by the Supply Service.

Both purchase and requisition demand good organization, and trained supply officers accompanying the troops. The Supply Service is organized in the way about to be described, partly so as to provide officers, men, and wagons to collect supplies in the country and bring them to the troops, partly to transport from the Base what is required to supplement the amount collected.

The Supplies for an Army in the Field may be considered under two heads :

- (I.) *Mobile Supplies with the Troops.*
- (II.) *Supply Depôts on the Lines of Communication.*

(I.) MOBILE SUPPLIES WITH THE TROOPS

The former are divided into three lines of supply :

- (a) *Regimental Supplies*; controlled by the Unit itself.
- (b) *Column Supplies.*
- (c) *Park Supplies.*

The last two are controlled by the Supply Service.

(a) *Regimental Supplies* are those carried in Regimental wagons, in addition to what is in the personal charge of each man—namely, the remains of the current day's ration issued overnight, and an emergency ration of preserved food. In the wagon with each unit are one day's ration of food and of oats for the unit, for issue that evening, besides a second grocery ration and some compressed forage.

(b) *Column Supplies* are carried in Supply Columns, of which one is allotted to each Division

and Mounted Brigade, and to the Army Troops. Each Column carries one day's ration and forage for its Division, and one emergency ration. One day's meat on the hoof will usually be driven with the Column.

The Supply Column replenishes the regimental supplies daily, and is kept filled up by collecting local supplies, or by drawing on the L. of C. depôts, or, as a last resource, on the Park Supplies.

(c) *Park Supplies* are carried in the Transport and Supply Park allotted to each Division, which usually marches a day's march in rear of the troops. It carries three days' rations for its Division, and is divided into three sections, *i.e.* 1 per Brigade. There is in the Field Park also a Bakery Detachment, capable of baking for 22,500 men ; this is, as a rule, stationed at the Advanced Base. One to three days' meat supply on the hoof will generally be driven with the Park. The Parks are kept filled up by a more extended exploitation of local resources than the Supply Columns can effect, and obtain the balance required from the L. of C. depôts.

This organization thus supplies the following rations per man, and corn per horse, with the troops in the field, apart from any Supplies which may be moving up along the L. of C.

COMPOSITION OF FIELD RATION

Meat : $1\frac{1}{4}$ lb. fresh, or 1 lb. preserved.

Bread : $1\frac{1}{4}$ lb., or 1 lb. biscuit.

Groceries : Tea, sugar, salt, pepper.

Jam.

Lime-juice and rum, when authorized.

Vegetables : 8 oz. fresh, or 2 oz. dried, or 4 oz. preserved fruit.

The weight of a ration may be taken at 3 lb. net or 4 lb. gross, and that of the emergency ration is $6\frac{1}{2}$ lb. net or $9\frac{1}{2}$ lb. gross.

The preserved meat and biscuit are carried in 80-lb. wood cases, containing 60 rations of meat and 50 of biscuit. The cases furnish kindling for fires.

12 lb. corn per horse, or 15 lb. for heavy draught horses.

DISTRIBUTION OF SUPPLIES

On the man or horse : 1 day's ration and 1 day's oats, less amount consumed overnight ; 1 emergency ration.

In Regimental Transport : 1 day's ration, less vegetables, and 1 day's groceries extra ; 1 day's corn.

In T. and S. Columns : 1 day's rations and corn.

In T. and S. Park : 3 days' rations and corn.

Compressed forage : 1 bale (82 lb.) in each wagon in the Force.

Total carried with the Force per man and horse :
6 days' meat and biscuit and corn, less that consumed overnight ;

6 days' groceries ;

5 days' jam, lime-juice, and rum ;

4 days' vegetables ;

2 emergency rations ;

or sufficient for from 7 to 8 days, without receiving supplies from the L. of C.

(II.) SUPPLY DEPÔTS ON THE LINES OF
COMMUNICATION

Advanced Supply Depôts, established at the Advanced Base, to replenish the Mobile Supplies with the Troops.

Intermediate Supply Depôts, formed at Railhead, and sometimes at other points on the Lines of Communication, as a reserve.

The *Base Depôt*.—This is the main source of supply for the Army. In it are accumulated ample reserves of all supplies, procured partly from home, partly by contract from abroad, but as far as possible by direct purchase in the theatre of war.

INTERIOR ORGANIZATION OF TRANSPORT AND
SUPPLY UNITS

The Supply Columns and Supply Parks are formed by Companies of the "Army Service Corps," which comprise both Transport and Supply personnel, with the necessary horses, wagons, and stores.

The Company of Army Service Corps varies in strength according to its functions, but comprises on an average the following :

For Transport duties : 3 Officers, 63 other ranks, 108 horses, 25 wagons.

For Supply duties : 1 Officer, 13 other ranks.

The various *Supply Columns* are formed of a number of A.S.C. Companies on the following scale : one Company per Brigade, and one per Head-Quarters ; so that the Supply Column of a *Division* comprises 4 A.S.C. Companies, that of

the *Cavalry Division* 5 A.S.C. Companies, and that of a *Mounted Brigade* 1 A.S.C. Company. The *Army Troops Supply Column* is formed by 1 A.S.C. Company.

The *Divisional Supply Park* is formed in 3 sections, or one per Brigade, each being formed by 1 A.S.C. Company.

The *Field Bakery Detachment* is formed by 1 A.S.C. Company, and is divided into 8 sections, each of which can erect and work 10 ovens.

The *Supply Depôts* on the Lines of Communication have a personnel provided from 40 *Depôt Units of Supply* and 8 *Bakery Sections*; one unit and one section are calculated to suffice for a depôt to feed 4,000 men and 1,000 animals. Their personnel comprises clerks, issuers, butchers, and bakers. Civil labour and transport will be obtained to supplement the military personnel, as required.

4. THE MEDICAL SERVICES

The Medical Service is of immense importance to the operations. No General can afford to neglect his sick and wounded. He can hardly fight, if he knows he cannot attend to them on the battlefield, and remove them afterwards to hospitals in rear. There must be at the front sufficient surgeons, as well as medical appliances and stores, to cope with this work. The transport of the sick to the rear must be carried out without delay or confusion, and on the Lines of Communication, and at the Base, there must be properly equipped hospitals to receive the sick and wounded.

The method of dealing with casualties in action is as follows :

In the front, with the fighting men, are the regimental surgeons and the stretcher bearers of the Infantry, for work on the battlefield. Behind the fighting line are stretcher bearers and ambulance wagons of the Field Ambulance, collecting the wounded, and taking them to the dressing stations. In rear are the Clearing Hospitals, into which the sick and wounded are collected, and whence they are despatched in Ambulance Trains along the railway to Stationary Hospitals on the Lines of Communication, or to the Base Hospitals. The invalids are then removed, either to convalescent depôts on the L. of C., or by hospital ship to the home country, where civil organization can be depended on to help the Military Hospitals to deal with them.

The Medical Services are manned and administered by the "Royal Army Medical Corps." Their transport is provided by the Army Service Corps. The organization comprises the following :

(a) WITH THE TROOPS AT THE FRONT

1. Medical Establishments with Units.
2. Field Ambulances with Subordinate Commands.

(b) ON THE LINES OF COMMUNICATION

Six Clearing Hospitals, at Advanced Base.

Six Ambulance Railway Trains, each available for 100 patients lying down.

Twelve Stationary Hospitals of 200 beds each, on the Lines of Communication.

Twelve General Hospitals of 520 beds each, at the Base.

Convalescent Depôts, as required.

Six Hospital Ships, each to carry 220 patients.

Three Base Depôts, and three Advanced Base Depôts, containing a reserve of Medical Stores.

It will be observed that for a Division and a Brigade of Mounted Troops there are provided 1 Clearing Hospital, 1 Ambulance Train, 2 Stationary and 2 General Hospitals, and 1 Hospital Ship.

DETAILS OF MEDICAL ORGANIZATION

1. Each Unit has attached to it a Medical Officer, and itself supplies two trained Orderlies, and a cart (or pack horse for mounted troops), to carry medical equipment. There are also two trained stretcher bearers from the ranks of each Infantry Company (or four men from each Squadron), trained in "first-aid" duties.

2. *Field Ambulances* are allotted to each Division, and *Cavalry Field Ambulances* to the Cavalry Division, and to the Mounted Brigades. They are provided on the scale of one for each Brigade. There are also two *Field Ambulances* for the "Army Troops."

Each description of Ambulance comprises a *Bearer Division* of stretcher bearers, and a *Tent Division*, which forms a "Dressing Station"—that is, a small mobile field hospital in which only absolutely necessary dressing is applied.

The *Field Ambulance* is divided into three equal Sections, and the *Cavalry Field Ambulance* into two Sections. Each Section has 3 ambulance wagons, a water cart, and 2 wagons and a cart for carrying its stores, baggage, and supplies. Each Section is thus self-contained, and can be sent off without reorganization, whenever required to accompany a detached portion of the Brigade.

The strength of a *Field Ambulance* is :

10 Officers, 120 stretcher bearers, 60 hospital staff, all belonging to the Royal Army Medical Corps (R.A.M.C.), and 60 men and 90 horses provided by the A.S.C. for its transport, which consists of 10 four-horsed ambulance wagons, 3 water carts, and 9 other wagons for medical supplies, baggage, and stores. Its *Bearer Division* provides 18 squads of stretcher bearers, each squad being of 6 men ; and its *Tent Division* can accommodate 150 patients.

A *Cavalry Field Ambulance* comprises :

6 Officers, 38 stretcher bearers, 30 hospital staff, of the R.A.M.C., and 44 men and 70 horses of the A.S.C. It has 4 two-horsed, and 6 four-horsed, ambulance wagons, 2 water carts, 4 other wagons. Its *Tent Division* can accommodate 50 patients.

The establishment of a *Clearing*, or a *Stationary Hospital* to accommodate 200 patients is 8 Officers and 80 other ranks ; that of a *General Hospital*, 21 Officers and 140 other ranks. Nursing sisters are allotted to the non-mobile Hospitals on the L. of C. at the rate of 17 to 200 patients, but not to the mobile Clearing Hospitals.

Each Ambulance Train is provided with 2

Officers, 18 other ranks, and 2 sisters, and can carry 100 patients.

THE SANITARY SERVICE

The Sanitary Service is one of the Medical Services. Its object is to preserve the health of the troops, by looking after purity of water supply, and sanitation of camps.

The personnel of the Sanitary Service is provided by the R.A.M.C. It comprises a *Sanitary Squad* with each Unit, and on the Lines of Communication a *Sanitary Section* at the Base and Railhead, a Squad at each Post or Rest Camp, and 2 Squads at each Advanced Base.

The *Section* comprises an Officer and 25 men of the R.A.M.C., the *Squad* a Sergeant and 5 men.

In addition, a N.C.O. of each Cavalry Regiment, or Artillery Brigade, or Battalion, and 1 or 2 men of each Squadron, Battery, or Company, are trained for carrying out Sanitary duties with their Unit.

CHAPTER X

THE EXPEDITIONARY FORCE (*continued*) SERVICES ON THE LINES OF COMMUNICATION

5. THE VETERINARY SERVICE

THE efficiency of the Veterinary Service is of great importance to prevent waste of horseflesh.

This Service is under its Director, who has a Veterinary Officer to assist him. A Veterinary Officer is allotted to each Division and to the L. of C. Each of the above officers has one clerk. A Veterinary Officer is attached to each mounted unit to treat its horses. He is assisted by the Farriers in his work, and is provided with a pack horse to carry his veterinary equipment.

Hospitals for sick horses unavoidably left behind are formed at the Advanced Bases, and at the Base, where there is also a depôt of Veterinary Stores. The necessary personnel for these hospitals is provided by six *Veterinary Sections*, each of 2 Officers and 32 other ranks, with 83 horsekeepers. A Section can take charge of 250 sick horses. Horses when cured are transferred to the Remount Depôt.

Veterinary Officers are also allotted for duty at places where horses are landed, and with the Remount Depôts. They are also charged with the duty of inspecting cattle before slaughtering.

THE REMOUNT SERVICE

The total number of horses in the Field Force is nearly 70,000, and it is estimated that twice as many more will be required to keep up this strength for twelve months of war.

The *Remount Service* is formed to supply the "remounts," or fresh horses continuously required to replace those expended in war. The Head of this Service is the Deputy Director of Remounts.

Remount Dépôts are formed at the Base and the Advanced Bases, where all animals procured for the use of the Army are taken charge of, trained, and distributed to the Units. The *Base Remount Dépôt* can receive 1,000 animals. It is managed by a personnel of 11 Officers and 337 other ranks. The strength of an *Advanced Remount Dépôt* is 4 Officers and 112 other ranks, and each is adapted to receive 300 animals.

6. THE ORDNANCE SERVICES

Stores of all sorts, except medical and veterinary, are supplied to the Army by the Ordnance Services. The supply of ammunition is the most pressing service, but troops require a variety of other stores—tools and explosives, boots, clothing, equipment, and arms. Workshops are required for repairs of all sorts, especially to vehicles and harness.

The Ordnance Services are controlled by the Director of Ordnance Stores and his Deputy, under the Inspector-General of Communications, each with two Ordnance Officers as assistants. The organization consists of *Ordnance Dépôt* units—10 at the Base, 7 at Railhead, and 2 at each

Advanced Base—which form Ordnance Depôts at those places. Each unit consists of 2 Officers and 69 clerks, storemen, and artificers, with as much civil labour as may be required.

ARRANGEMENTS FOR AMMUNITION SUPPLY

The main duty of the Ordnance Services is forwarding ammunition to the front, where it is taken over by the Fighting Units, at places called the *Refilling Points*, which are generally about a day's march in rear of the fighting line. One Auxiliary Transport Company of 100 wagons is allotted per Division for carrying ammunition to these points. To ensure an adequate supply at the front demands careful organization and good administration of the Ordnance Services, as ammunition is expended at uncertain dates, and in amounts which cannot be forecast.

The amount provided for the Field Force is as follows :

GUN AMMUNITION

1,000 rounds per Field or Horse Artillery gun ; 500 per Howitzer and Heavy gun. About half of this is carried by the Fighting Troops ; the rest is in Ordnance charge on the L. of C.

SMALL-ARM AMMUNITION

For each Rifle :

Carried by the soldier :

Infantry	150 rounds.
Cavalry and Mounted Infantry	100 „
Artillery and Engineers . .	50 „

For each Rifle (*continued*):

In Regimental Reserve . . . 100 rounds.

In the Field Artillery Brigade

Ammunition Column . . . 100 „

In Divisional Ammunition Col. . 100 „

Total, per rifle:

Infantry 450 „

Cavalry and Mounted Infantry 400 „

For Machine Guns:

With each gun 3,500 rounds.

In Regimental Reserve, per gun:

Cavalry and Mounted Infantry 16,000 „

Infantry 8,000 „

With the Brigade Ammunition

Column, per gun 10,000 „

With Divisional Ammunition

Column, per gun 10,000 „

For each Pistol:

On the man 12 rounds.

In Regimental Reserve . . . 12 „

In Brigade Ammunition Column 12 „

With regard to the amount of ammunition required in the field, it should be noted that the quantity of Gun Ammunition that may be expended with quick-firing guns is very great. In Manchuria, both Russian and Japanese Batteries have been known to fire 500 rounds per gun in one day. The amount of Gun Ammunition carried in the French Army is 2,000 rounds per gun—*i.e.* 500 rounds with Batteries and Ammunition Columns, and 500 in the Army Ammunition Park, the Army Park, and in dépôts on the L. of C., respectively.

As to Rifle Ammunition, the Japanese found that the 270 rounds carried by each man ran out, and they consider that each man should have 350 rounds available with his Regiment, and 150 more in Ammunition Columns. This makes a total of 500 with the Fighting Troops, which the British allowance of 450 nearly approximates.

7. THE RAILWAY SERVICES

The efficiency of the service of the railways which generally form the Lines of Communication is of the utmost importance to the Army, as on it depends the issue of supplies and ammunition to the troops at the front, and consequently their ability to move and fight.

The control of the Railway Services is laid on the Director of Railways, who is responsible to the Inspector-General of Communications, and works under the supervision of the Quarter-Master-General's Branch of the Staff.

The work of the Railway Services comprises the *maintenance* and *working*, as well as the *repair* (and sometimes the *construction*), of railways in the theatre of operations. The personnel of the Railway Services consists of two entirely separate bodies. One is termed the *Technical Railway Personnel*, and the other the *Railway Control Establishments*.

The *Technical Personnel* is provided in a friendly country by the civil railway companies, but in a hostile country by the Royal Engineers, when it is organized in a *Central Railway Establishment*, two

Railway Districts, and three *Railway Companies* of Engineers. There is allotted also, from the two Lines of Communication Telegraph Companies, a *Railway Telegraph Section* for the exclusive use of the Railway Service.

The "Central Railway Establishment" and the two "Railway Districts" are organized in branches for the following purposes: Management, Traffic, Engineering, Locomotive, Accounts, Stores. The total strength of these Units is 51 Officers and 854 other ranks.

The total strength of three "Railway Companies" is 12 Officers and 732 other ranks.

The *Railway Control Establishments* are the medium of communication between the troops and the Technical Personnel. Officers of this body are posted at the chief stations to facilitate the traffic, arranging all details with the troops, providing meals at certain stations, and supervising the movement of men, animals, and stores.

The personnel of the "Railway Control Establishment" is 7 Officers and 10 clerks and checkers, distributed to each important station.

The Director of Railways and his personnel have no responsibility for the technical security of the railway; for this the "Commander of the Line of Communication Defences" is responsible.

8. THE WORKS SERVICE

The Director of Works carries out all Engineer services (apart from Railways and Telegraphs) required on the Lines of Communication.

One Company of Engineers, without transport, is allotted for these services, and is supplemented by civil artisans and unskilled labourers, who are either brought from home, or hired locally.

The *works* on the Lines of Communication are described in Chapter II. Many are required at the Base in connection with the heavy work involved in landing troops, supplies, and stores, and sending them up to the front. For these purposes existing works may have to be adapted, or new ones constructed. All have to be maintained, and any plant required kept running. Works at the Base have to be of a semi-permanent character, in view of possible lengthy operations.

In addition, the Engineer Company provides workshops, and depôts of stores and material, which are established at the Base, the Advanced Bases, and at Railhead, for the use of the Engineers at the front.

9. THE POSTAL SERVICE

A military organization is needed with an Army in the field, so as to ensure regular postal communication to and from home. This is a modern innovation in war, but one of importance to the comfort and spirits of the troops, and is a service demanded by their friends at home and by the nation in general.

This service is controlled by the Director of Postal Services, who is attached to Head-Quarters of the Inspector-General of Communications.

A chief Post Office is established at the Base,

where all incoming or outgoing mail is dealt with. It has a personnel of 85 of all ranks, furnished by the "Army Post Office Corps."

Smaller Post Offices are established at the Advanced Bases, and others, each of four men, are allotted to posts on the Lines of Communication, and to Head-Quarters of Brigades and Divisions in the field.

10. THE ACCOUNTS DEPARTMENT

The Accounts Department is responsible for Finance, Accounts, Audit, and the disbursement of cash for the Army in the field. It is under the Financial Adviser at Head-Quarters with three Assistant Advisers.

The personnel of the Department consists of Accountants, Cashiers, and Field Paymasters.

The Accountants are in the Accounts Offices at the Base, which are manned by three *Accounts Units*, each with a personnel of 43 Accountants and Cashiers, with their servants, and 138 Writers.

Each "Base Accounts Unit" is organized to deal with the accounts of two Divisions, a Cavalry Division, and a Mounted Brigade. It is under a Chief Accountant, whose duties include dealing with Contracts, Store and Supply Accounts, the Accounts of the Troops, and Audit.

The Cashier Staff is usually at the Base, where the bills incurred by the various Services are paid, and any necessary issues of cash on imprest made.

The Field Paymasters are stationed at convenient places nearer the troops ; they provide Commanding

Officers with cash for paying the men, and pay bills incurred locally, if urgent.

At the Base is the Military Chest, holding the cash reserve of the Army. That it should be ample during the Campaign is of vital moment. Credit notes are a poor substitute for cash in an enemy's, or even an ally's, country. As von der Goltz says, "a full exchequer may be worth an Army Corps, and a clever financier at the side of the Commander-in-Chief equal to a first-rate General." Cash is required not mainly for the pay of the troops, but to purchase in the country what the Army needs, and to pay for the large amount of civilian labour which will be required on the L. of C. Cash is also needed to buy information, or reward inhabitants for services. The immense importance of having, without fail, ready money for these purposes—so essential for the operations of the Army—cannot be over-estimated.

11. THE RECORDS BRANCH

The Records Branch supplies, on mobilization, one Section of clerks for each Division, and for each Cavalry or Mounted Brigade, to carry on the clerical work at Head-Quarters of Commands in the field. Artillery and Engineers supply their own clerks for their Head-Quarters.

A Record Office is established at the Base, to carry on all office work in connection with the personnel from which it is desirable the units in the field should be entirely freed, such as the soldiers' attestations and medical history sheets, and their accounts. From this office, too, are sent to

England reports, returns, war diaries, and lists of casualties. It also conducts the clerical work in connection with invaliding.

The Base Record Office consists of six Sections, or one for a Division and a Cavalry or Mounted Brigade. A Section comprises 3 Officers, 4 Staff Sergeants, and the Orderly Room Clerk of each Unit belonging to the Division or Brigade allotted to the Section. There are two divisions in each Section—one for Infantry Battalions, one for all other Units.

12. DEPÔTS FOR PERSONNEL

Base Depôts are formed to receive the personnel left by each Unit at the Base, which comprises its Band Sergeant, Master Tailor, and Storemen. The latter take charge of such part of the men's equipment as is kept back at the Base, as not being required in the field, and must yet be available when needed.

The men of each Unit who form its "First Reinforcements" are also placed in the Base Depôt. These are calculated at the rate of 10 per cent. of the rank and file of each Unit in the Field, with an Officer for every party exceeding 40 men.

The above completes the picture of the Organization of the British Field Army for service abroad.

A brief account of the Territorial Force will now be given, followed by one of the Indian Army, as organized for service in the field.

CHAPTER XI

THE TERRITORIAL FORCE—THE INDIAN ARMY

THE TERRITORIAL FORCE

A BRITISH "Second Line Army" is provided by the Territorial Force. It consists of 14 Divisions, 14 Mounted Brigades, and certain "Army Troops." These are organized on the same lines as the regular Units, but differ in the following points :

1. The Cavalry and Mounted Infantry Units are both provided by the "Yeomanry," and consist of Regiments of 4 Squadrons instead of 3 as in the regular Cavalry. The Divisional Cavalry is formed of a Regiment of Yeomanry, instead of 2 Companies of Mounted Infantry as in the regular Division.

2. The Artillery is in Batteries of four guns, instead of six as in the regular Artillery.

3. The Divisional Supply Column is formed of 4 A.S.C Companies, that is 1 per Brigade and 1 for the Divisional Troops. There are no Divisional Supply Parks.

4. There are no Divisional Ammunition Columns.

5. Cyclist Battalions will form part of the Army Troops.

THE ARMY OF INDIA

The Field Force which can be mobilized in India for war consists of 9 Divisions and 8 Cavalry Brigades. It is composed of British and Indian Troops in combination. This fact necessitates an organization somewhat different in detail from that in England, especially as to number of Officers and men and constitution of Administrative Services. But, on the whole, the organization of the Army of India is on the same lines as that of the Home Army.

The main differences are as follows :

The *Infantry Brigade*, which has 4 Battalions as in the Home Army, is organized for independent action, having its own Administrative Services—namely : two Ambulances, a Supply Column, and a Field Post Office.

The *Cavalry Brigade*, like that of the Home Army, is of 3 Regiments, but the Regiment has 4 Squadrons. The Brigade is also organized for independent action, having a Horse Artillery Battery and Ammunition Column, and the necessary Administrative Services, like the Infantry Brigade.

The *Division* is of three Brigades, with two Field Companies of Engineers, like the British Division, but it has an extra Battalion of Pioneers and a whole Cavalry Regiment. It is weaker in Artillery, having only one Brigade of Field Artillery, but it has 2 Mountain Batteries. The Indian Division has the same Administrative Services as a British

Division in England, with a Survey Party in addition.

The Staff and the Field and Horse Artillery are *British*. The Infantry Battalions, Cavalry Regiments, and Mountain Batteries are either *British* or *Indian*. The Engineer Companies and Administrative Services are *Indian*. In all *Indian* Units the higher ranks are filled by British Officers.

The following gives the Establishment of Brigades and Divisions :

INDIAN ARMY ORGANIZATION

CAVALRY BRIGADE

Battery Horse Artillery.

Cavalry Regiments, 1 British and 2 Indian.

Ammunition Column.

Field Hospital, 1 Section British, 2 Sections Indian.

Field Post Office.

Brigade Supply Column.

Total Strength : British : 70 Officers, 650 men.

„ „ Indian : 40 Officers, 1,100 men,
1,950 horses.

INFANTRY BRIGADE (BRITISH OR INDIAN)

Infantry Battalions, 4.

Field Hospitals, 2.

Field Post Office.

Brigade Supply Column.

Total Strength : British Brigade : 132 Officers, 3,300 men,
122 horses, with 700 Indian followers.

„ „ Indian Brigade : 88 Officers, 3,000 men,
600 followers, 122 horses, with 70
British Officers.

Infantry Brigades are sometimes organized with 1 or 2 British and 3 or 2 Indian Battalions.

INFANTRY DIVISION

Infantry Brigades, 1 British and 2 Indian.

Cavalry Regiment, 1 Indian.

Pioneer Battalion, 1 Indian.

Field Artillery Brigade, 1 British.

Mountain Batteries, 2 British or Indian.

Engineer Field Companies, 2 Indian.

Field Hospitals, 1 Indian and 2 Sections British.

Divisional Ammunition Column.

Field Post Office.

Supply Column for Divisional Troops.

Divisional Supply Column.

Survey Party.

Total Strength: British: 370 Officers, 4,100 men.

 " " Indian: 230 Officers, 8,200 men,
 2,600 followers, 1,950 horses.

CHAPTER XII

SPECIAL FEATURES OF BRITISH WAR ORGANIZATION

THE most recent developments of Organization are well illustrated in that of the British Army, which has been lately reorganized in accordance with the trend of modern views as to the conduct of War.

Ruskin once wrote that no modern man could ever realize the amount of *thought* built into a Gothic cathedral, where the size and detail of each part have been designed with reference to the proportion it bears to the whole, as well as to the number and dimensions of its fellow members. It would be equally impossible to sum up in a short chapter the *thought* built into the organization of the British Army. To appreciate its details demands a thorough knowledge of the working of each Arm and of each Administrative Service. Each is planned to be of such strength and composition as to enable it to perform all that is required of it, and to ensure that all shall work in harmonious co-operation under the strain and friction of War.

Among the points which are especially worth noticing are the following, which bear out the

principles of Organization dwelt on in previous chapters.

ORGANIZATION BY DIVISIONS

It was shown in Chapter V. that small armies should be formed of Divisions and not of Army Corps. This principle has been adopted.

The strength of the British Expeditionary Force is practically that of three Cavalry Divisions and three Army Corps of the German Army. The former comprises 75 Battalions, the equivalent of nearly 23 Regiments of Mounted Troops, and 492 guns; the latter, 75 Battalions, 24 Cavalry Regiments, and 468 guns. But the British Force is organized so as to be more flexible, and to facilitate and strengthen the Supreme Command. It is *more flexible* from the greater number of Subordinate Commands. It *facilitates Command* by having two links fewer in the chain of Command—the Army Corps and the Regiment. It *strengthens Command* by not having any Subordinate Commander of the importance of the German Army Corps Commander to reckon with—a point emphasized by Clausewitz.

FACILITY OF SUBDIVISION

The British organization is so planned that the Force can be readily divided, when required, into two Armies, each of which can be provided with its proportion of Strategic and Protective Cavalry, and of Army Troops, without disorganizing and rearranging those Formations.

This principle has been carried throughout the

Force. Thus, the *Cavalry Division* can supply any detached *Brigade* with the *Divisional Troops* required—namely, a Battery of Horse Artillery, a Field Troop of Engineers, a Section of the Wireless Telegraph Company, a Field Ambulance, and a Company of A.S.C. to form the Brigade 'T. and S. Column, there being one of each of these *Divisional Units* for each *Brigade* to be detached.

Similarly, the *Cavalry Brigade* can detach one of its *Regiments* provided with Sections from the Field Troop of Engineers, the Field Ambulance, and the A.S.C. Company, so as to be self-contained.

In exactly the same manner, the *Division* of Infantry can at any time detach a *Brigade* provided with its due proportion of all Arms and Administrative Services, without confusion and delay.

The *Infantry Brigade*, also, can detach *Battalions* equally self-contained; and the *Artillery Brigade* can allot a Section of its Ammunition Column to any *Battery* which it may be desirable to detach.

STAFF

The following principles have been adopted :

Separation of the General Staff from the Branches of the Staff charged with Routine and Administrative work, and making the latter Branches subordinate to the General Staff for their general direction, while independent in their working. This matter has been discussed in Chapter VI.

Reduction of the numbers attached to General

Head-Quarters, by relegating most of the Directors of the Administrative Services to the L. of C. This is very desirable in the case of the Services which work on the L. of C., in order that the Directors may be in intimate touch with their work. As a rule, only the Directors of Army Signals, Supplies, Transport, and Medical Services will accompany General Head-Quarters at the front.

CAVALRY ORGANIZATION

The view has been accepted that the same body of Cavalry cannot perform the two often incompatible duties of obtaining Information, and providing Security for the Army. This subject has been fully discussed in Chapter II.

The Force is therefore provided with a large *Cavalry Division* to form the Independent Cavalry responsible for Strategic Reconnaissance, and a smaller body, the *Mounted Brigades*, for the duty of Protection.

The Independent Cavalry is no longer hampered by having to cover the front of the Army with a protective screen. Its strength of 4 Brigades, or 12 Regiments, with 4 Batteries of Horse Artillery, makes it equivalent to two Continental Cavalry Divisions, but, being permanently organized under one Command, it will have greater flexibility, and be more prompt and efficient in action, than the two separate Divisions. As to this, von Bernhardt says "one strong Division under a single Command is of far more use than two weak ones." This endorses the British organization.

The allotment of Mounted Infantry to replace

Divisional Cavalry, and to form the bulk of the protective Mounted Brigades, sets free nearly all our Cavalry Regiments for their true offensive function, for which they can be expressly trained. Our Cavalry Regiments run no risk of being broken up to provide Divisional Cavalry or Escorts to Head-Quarters on mobilization, as is unavoidable for many Continental Cavalry Regiments, in which case, not only is their real Cavalry training wasted, but their Head-Quarters are superfluous. Von Bernhardt recommends a Cyclist Battalion being attached to each Army Corps to eke out the Cavalry, a suggestion we have anticipated by the use of Mounted Infantry.

The organization of Cavalry Regiments and Brigades in *three* units tends to facilitate command and tactical action. Our Yeomanry and Cavalry in India have the 4-Squadron organization, and opinions differ as to the value of the 3-Squadron Regiment, but the 3-Regiment Brigade is undoubtedly a more flexible and efficient instrument for rapid and decided action than the weak foreign Brigade of 2 Regiments which von Bernhardt condemns.

The provision of *Mounted Brigades*, under the Army Commander, is an innovation. Their functions are in foreign armies carried out by the *Divisional Cavalry*; but the screen formed by such Squadrons, acting independently under their Divisional Commander, can hardly be as continuous and effective as that provided by the British Mounted Brigades acting directly under the orders of the Army Commander.

The fire action of the Mounted Troops has been developed, as mentioned in Chapter II. In this point the British Cavalry, armed with the Infantry rifle, is undoubtedly in advance of any other. The use also of Mounted Infantry, peculiar to the British Service, provides more efficient fire action for both Army and Divisional Protective Cavalry than in any other army. This will increase the power of the *protective screen* to drive in that of the enemy, and assist the Advanced Guards to push on, or at least to hold their ground till the main body can deploy and come into action.

MACHINE GUNS

Two Machine Guns form an integral part of Battalions and Cavalry Regiments. This provides a greater number of these guns than in Continental armies at present (see page 34).

FIELD ARTILLERY

The proportion of guns to Infantry has in all armies been steadily rising during late years. It is now higher in the British than even in the German organization, and far higher than in other armies.

The modern tendency to provide different natures for different purposes has been followed, in allotting a *Howitzer Brigade* and a *Heavy Battery* to each Division.

In action a number of assistants are allotted to each Artillery Commander, to enable him to use indirect fire with facility, and to combine the fire of all his guns to the greatest effect.

AMMUNITION SUPPLY

The organization of the supply of ammunition in action has been systematized in detail. Ammunition Columns are organized so as to be divided readily to accompany detached Batteries, and to facilitate the supply of ammunition to Infantry, Cavalry, and Mounted Brigades.

ENGINEERS

Modern war demands more and more the co-operation of Engineers with other Arms. This has been recognized in Japan, where a Battalion is attached to a Division. The British Division has now 2 Field Companies, or double the number in Continental armies. Each is provided with some Bridging Equipment for forming small bridges without waiting for the "Bridging Trains" to come up. There are two of these Bridging Trains, which form part of the Army Troops, and are ready to be sent to the front whenever it is foreseen that large bridges will be required on the forward march of any part of the Army. When there is no need of them, the Bridging Trains will march in rear, so as not to block the roads.

ORGANIZATION OF THE DIVISION

One of the most important improvements in the British organization is that a Division is formed of *three* Infantry Brigades, instead of the *two* nearly universal in foreign armies. This change has often been recommended by foreign military experts, notably by von der Goltz in his "Nation in

Arms." It is economical in Divisional Staff, and increases the importance and efficiency of the Divisional Command. It provides 12 Battalions for a Division, as in Germany, but without the insertion of an extra link—the *Regiment*—in the chain of Command. The almost universal organization of Infantry in foreign armies in Army Corps of 2 Divisions, Divisions of 2 Brigades, and Brigades of 2 Regiments, must be considered, for reasons already stated, a faulty one. The British Divisional organization, both in Infantry and Cavalry, is undoubtedly superior.

INTER-COMMUNICATION

The personnel and equipment necessary for inter-communication are now provided by a number of "Communication Units." These ensure ready and effective communication between the Commander-in-Chief and his Cavalry and his Infantry Divisions, between the Divisions themselves, as well as internally in each. This is now more important than ever, owing to the wider dispersion of the troops, and the absolute necessity of obtaining early intelligence about the enemy, and transmitting orders without delay. All means of Communication, whether by telegraph, *wireless*, telephone, day and night signalling, or despatch riders, should be under *one* organization. Each Command — Army, Division, Brigade — is now provided with means of communication forming integral portions of the Command, and trained Regimental Signallers carry on the system from Brigade Head-Quarters to the troops actually at

the front. In no other army is the Telegraph system so completely organized, while Signalling is but little developed outside England.

LINES OF COMMUNICATION

In the British Service alone has the important principle been adopted of separating the duties on the Lines of Communication into two independent branches, that of their *Protection*, and that of their *Administration*, thus leaving the Officer charged with their administration to concentrate his attention on this vital matter. This Officer, the Inspector-General of L. of C., has now to assist him an adequate Staff, whose composition is organized beforehand, and no longer left to be improvised in war. The organization of the L. of C. has been remodelled, and the necessary Staffs allotted to the Base, Railhead, Advanced Depôts, and smaller posts. This will prevent confusion at the outset, and facilitate working on the L. of C.

The organization of the Administrative Services on the L. of C. has been elaborated in great detail, to ensure their efficient action. This applies especially to the *Medical Services*, whose organization is now as complete and well thought out as in any army in the world, and to the *Transport* and *Supply* Services, which, as explained in Chapter VII., are closely united, and likely, therefore, to work better together than in foreign armies, where Transport is a Combatant Unit, and Supply a Civil Department.

The great importance of *Railways* on the L. of C. has been fully realized. British war experience has of late been considerable, and the personnel required for working railways in war has been carefully thought out, and organized in great detail. The number of Railway Units has been increased, and, in their completion to war strength on mobilization, full advantage has been taken of the unrivalled resources of England in highly trained railway personnel.

FINANCE AND CLERICAL WORK

The financial difficulties met by an Army in the Field have been faced, and the C.-in-C. relieved from responsibility for them. An establishment of personnel to deal with *Accounts* and *Audit* accompanies the Army in the Field, and is stationed at the Base, so as to systematize the Finance and Accounts, and facilitate the custody and issue of cash for necessary administrative purposes.

A clerical establishment has been established in the *Base Records Office*, which should greatly relieve the fighting units from all possible clerical and office work which can be done at the Base.

POSTAL SERVICE

A complete *Postal Service* for the Army in the Field has now been for the first time provided in the War Organization.

REINFORCEMENTS

The question of Reinforcements has been met by mobilizing with each Unit what are termed its *First Reinforcements*, at the rate of 10 per cent. of the rank and file. These accompany their Units to the theatre of operations, but are at first left at the Base in dépôts which are organized on mobilization to receive them. From these dépôts they can, when needed, be sent to reinforce their own Units at the front, without delay or confusion.

Reinforcements of "Second Line" Troops are provided from the "Imperial Service Section" of the Territorial Force, who can be sent abroad as Units for defence of Lines of Communication, escorting prisoners, guarding conquered territory, and all duties for which Second Line Troops are used in foreign armies.

Arrangements for Reinforcements in *horses* have been made, by registering private horses at home, and organizing the collection of horses purchased abroad, as well as by the organization of Remount Dépôts on the L. of C.



PART III

ORGANIZATION OF FOREIGN ARMIES . .

CHAPTER XIII

WAR ORGANIZATION OF THE FIGHTING TROOPS

THE organization of foreign armies differs considerably from that of the British Army. They are, however, all formed on the German model, with the exception of the Army of the United States. Their organization is therefore to some extent identical, and may be understood from the following table, showing the normal Continental organization, which has been copied also by Japan. The organization of the United States has followed original lines.

Notes are given of the main points in which some foreign armies differ from the normal organization.

Then follow tables showing the war organization of each of the chief armies of the world (1909). That of the German Army, the typical Continental Army, is given in greater detail than the others.

NORMAL WAR ORGANIZATION OF FOREIGN ARMIES

INFANTRY

Company : 250 men.

Battalion : 4 Companies, or 1,000 men.

Regiment : 3 Battalions (all Russian, and some German, Austrian, and French Regiments have 4).

Brigade : 2 Regiments.

Division : 2 Brigades.

Army Corps : 2 Divisions (3 in France and Austria).

CAVALRY

Squadron : 4 Troops, or 150 men.

Regiment : 4 Squadrons (Russia and Austria 6 ; Italy and Japan 5 ; Switzerland and the United States 3, like England).

Brigade : 2 Regiments.

Division : 2 or 3 Brigades.

FIELD ARTILLERY

Battery : 6 guns (4 in France, Switzerland, and the United States, 8 in Russia).

"Group" (our Brigade) : 3 Batteries.

Regiment : 2 "Groups."

Brigade : 2 Regiments.

RANK OF THE OFFICERS COMMANDING THE
ABOVE FORMATIONS

Companies, Squadrons, Batteries CAPTAIN.

(The Infantry Captain is a mounted Officer, except in Japan.)

Infantry Battalions, and Artillery "Groups" . . . MAJOR.

Regiments, of all Arms . . . COLONEL.

Brigades, of all Arms . . . MAJOR-GENERAL.

Divisions and Army Corps . . . LIEUT.-GENERAL.

In Russia the Lieutenant-Colonel replaces the Major, as that rank does not exist.

The following tables give the war organization of the formations of fighting troops in the principal armies of the world.

GERMANY

INFANTRY

Battalion	4 Companies of 270, or 1,080 men.
Regiment	3 Battalions and 1 Company of 6 machine guns.

Fighting strength : 3,000 bayonets, 6 machine guns.

Total strength : 3,300 men, 190 horses, 60 vehicles.

Brigade	2 Regiments.
Division	2 Brigades (a few Divisions have 3). 1 Cavalry Regiment. 1 Artillery Brigade of 2 Regiments. 1 Company of Pioneers (<i>i.e.</i> Engineers). 1 Light Bridge Train. 4 Heavy Ammunition Columns. 2 Infantry Ammunition Columns. 1 Bearer Company and 4 Field Hospitals. 3 Supply Columns and 3 Supply Parks. 1 Horse Dépôt.

Fighting strength : 12,000 rifles, 600 sabres, 72 guns, 24 machine guns.

Total strength : 17,000 men, 4,000 horses, 600 vehicles.

Army Corps	2 Divisions (a few Corps have 3).
	1 Rifle Battalion.
	1 Company of Pioneers and 1 Telegraph Company.
	12 Ammunition Columns (4 being for Infantry).
	6 Supply Columns and 6 Supply Parks.
	2 Field Bakery Columns.
	12 Field Hospitals.
	2 Horse Depôts.

Fighting strength: 25,000 rifles, 1,200 sabres, 126 guns, 48 machine guns.

Total strength: 41,000 men, 14,000 horses, 2,400 vehicles.

CAVALRY

Squadron	180 men, or 150 sabres.
Regiment	4 Squadrons, or 750 all ranks, 750 horses.
Brigade	2 Regiments (some 3).
Division	3 Brigades.
	1 Horse Artillery Abteilung (2 Batteries) and 1 Light Ammunition Column.
	1 Machine-Gun Section of 6 guns.
	1 Mounted Detachment, of 1 Officer, 33 men.

Fighting strength: 3,600 sabres, 12 guns, 6 machine guns.

Total strength: 5,000 men, 5,300 horses, 200 vehicles.

ARTILLERY

FIELD ARTILLERY

Battery 6 guns and 6 ammunition wagons.
Abteilung (British Brigade) :

3 Batteries (only 2 in Horse Artillery).

Regiment 2 Abteilungen of Artillery and 2
Light Ammunition Columns.

Brigade 2 Regiments, or 2,300 men, 2,000
horses, 70 guns and ammunition
wagons, 90 vehicles.

(In one Division of each Army Corps 1 Abteilung is detached for duty with the Reserve Army.)

HEAVY ARTILLERY

Battery 4 Heavy Field Howitzers, or Field
Mortars.

Battalion 4 Howitzer (or 2 Mortar) Batteries
and 1 Light Ammunition
Column.

One Battalion of Heavy Field Howitzers will probably be allotted to each Army Corps. Their function is to support the Field Artillery.

The Heavy Field Howitzer Battery has 4 guns and 8 wagons.

The Field Mortar Battery has 4 mortars, each with 3 carriages—one for travelling, one for firing, and one carrying firing platform. It has no ammunition wagons.

The function of Field Mortars is to attack Barrier Forts, or strongly defended positions.

These Batteries will probably be allotted to Armies, not Army Corps.

AMMUNITION COLUMNS

Field Battery wagons : 130 rounds shrapnel per gun.

Light Ammunition Columns, Field Artillery : 58 shrapnel, 44 high explosive, per gun.

Heavy Ammunition Columns, Field Artillery, 8 per Army Corps, or 1 per Artillery Regiment : 115 shrapnel, 26 high explosive, per gun.

Total with Troops, per Field Gun : 373 rounds, of which 80 per cent. are shrapnel, 20 high explosive.

FRANCE

INFANTRY

Battalion	4 Companies.
Regiment	3 Battalions.
Brigade	2 Regiments (some 3).
Division	2 Brigades (some 3).
	1 Squadron of Cavalry.
	3 Brigades of Field Artillery, 36 guns.
	1 Company of Engineers.

Fighting strength: 12,000 to 18,000 rifles, 150 sabres, 36 guns.

Army Corps	2 Divisions, and probably a third from the Reserve Army. Battalions of Rifles in some Corps.
	1 Cavalry Brigade.
	4 Brigades of Field Artillery, 48 guns.
	1 Battalion of Heavy Artillery.
	1 Company of Engineers.

Fighting strength: 36,000 to 42,000 rifles, 1,500 sabres, 126 guns.

CAVALRY

Regiment	4 Squadrons.
Brigade	2 Regiments.
Division	3 Brigades (some 2).
	2 Batteries of Horse Artillery.

ARTILLERY

FIELD ARTILLERY

Battery 4 guns, 8 wagons.

“Groupe” (British Brigade) :

3 Batteries.

Regiment 2 Brigades.

HEAVY ARTILLERY

Battery 2 guns.

Battalion 3 Batteries (6 guns—6 in.).

RUSSIA

INFANTRY

Regiment 4 Battalions and 8 machine guns.

Brigade 2 Regiments.

Division 2 Brigades of Infantry.

1 Brigade of Artillery.

Army Corps 2 Infantry Divisions.

1 Cavalry Division.

1 Engineer Battalion and Park.

Fighting strength: 28,000 rifles, 3,600 sabres,
124 guns.

Total strength: 40,000 men, 16,000 horses.

CAVALRY

Regiment 6 Squadrons.

Brigade 2 Regiments.

Division 2 Brigades, and 1 Horse Artillery
Brigade.

Fighting strength: 3,600 sabres, 12 guns.

Corps 2 Cavalry Divisions.

ARTILLERY

Battery Field, 8 guns.

Horse and Howitzer, 6 guns.

Division 2 or 3 Batteries and an Ammuni-
tion Column.

AUSTRIA-HUNGARY

INFANTRY

Regiment	3 (or 4) Battalions.
Brigade	2 Regiments.
Division	2 Brigades of Infantry. 1 Rifle Battalion. 3 Squadrons. 1 Artillery Regiment of 2 Divisions, each of 2 Batteries. 1 Company of Engineers.
Strength :	16,000 rifles, 730 sabres, 24 guns.
Army Corps	3 Divisions of Infantry. 1 Troop of Cavalry. 2 Regiments of Field Artillery. 1 Regiment of Howitzers. 1 Division of Heavy Artillery. 1 Company of Engineers.

Strength : 32,000 rifles, 1,500 sabres, 144 guns.

Total strength : 46,000 men, 13,000 horses, 4,000 vehicles.

CAVALRY

Squadron	2 Troops.
Regiment	6 Squadrons, 4 machine guns.
Brigade	2 Regiments (12 Squadrons).
Division	2 Brigades. 1 Machine-Gun Unit (4 guns). 1 "Division" of Horse Artillery (3 Batteries, 12 guns).
Fighting strength :	3,600 sabres, 12 guns.

ARTILLERY

Battery	Horse, 4 guns. Field, 6 guns, 6 wagons. Howitzer, 6 guns, 12 wagons.
Division (British Brigade):	Horse, 3 Batteries. Field or Howitzer, 2 Batteries.
Regiment	2 Divisions (24 guns) and 4 Ammunition Parks.

HEAVY ARTILLERY

Battery	4 guns, or howitzers, 16 wagons.
Division	4 Batteries.

MOUNTAIN ARTILLERY

Battery	4 guns, or howitzers (mountain).
Regiment	4 Batteries and an Ammunition Park.

ITALY

INFANTRY

Battalion	4 Companies (3 in Rifle and "Alpine" Battalions).
Regiment	3 Battalions.
Brigade	2 Regiments.
Division	2 Brigades. 1 Squadron of Cavalry. 1 Brigade of Artillery. 1 Company of Engineers.

Fighting strength: 12,000 rifles, 150 sabres, 24 guns.

Army Corps	2 Divisions. 1 Battalion of Rifles. 1 Squadron of Cavalry. 1 Brigade of Artillery.
------------	---------------------------------------------------------------------------------------------

Fighting strength: 25,000 rifles, 450 sabres, 72 guns.

CAVALRY

Regiment	5 Squadrons.
Brigade	2 Regiments.
Division	2 Brigades. 1 Brigade of Horse Artillery.

ARTILLERY

Battery	Field or Horse, 6 guns. Heavy, 4 guns. Mountain, 4 guns.
Brigade	Field, 4 Batteries and an Ammunition Column. Horse, 2 Batteries and an Ammunition Column.

JAPAN

INFANTRY

Regiment	3 Battalions, 6 machine guns.
Brigade	2 Regiments.
Division	2 Brigades.
	1 Cavalry Regiment of 3 Squadrons.
	1 Artillery Regiment.
	1 Engineer Battalion of 3 Companies.
	1 Bridge Train.

CAVALRY

Regiment	5 Squadrons.
Brigade	2 Regiments of 5 Squadrons each.
	1 Machine-Gun Unit of 8 guns.
	1 Horse Artillery Battery.

FIELD ARTILLERY

Battery	6 guns, 6 ammunition wagons.
Battalion	3 Batteries.
Regiment	2 Battalions.
Brigade	2 Regiments.

SWITZERLAND

Future war organization by Divisions, which will, in 1912, replace the present organization in 4 Army Corps.

INFANTRY

Regiment	3 Battalions.
Brigade	2 Regiments. 1 Battalion of Rifles. 1 Squadron of Mounted "Guides."
Mountain Brigade :	5 Battalions. 1 Machine-Gun Unit. 2 Mountain Batteries. 1 Engineer Company. 1 Signalling Unit.
Division	3 Infantry Brigades. 1 Mountain Brigade. 2 Squadrons of Mounted "Guides." 1 Brigade of Field Artillery. 1 Battalion of Engineers. 1 Light Bridge Train. 1 Telegraph Company.

Of the 18 Infantry Brigades, 4 will be "Mountain Brigades."

CAVALRY

Regiment	(Cavalry and "Guides") 3 Squadrons.
Brigade	2 Regiments. 1 Machine-Gun Unit of 8 guns.

ARTILLERY

Battery	4 guns.
Regiment	6 Batteries.
	1 Ammunition Column.
Brigade	2 Regiments.

UNITED STATES

The organization of the army of the United States is on different lines from that of other armies.

No higher formation than the Regiment exists in peace, but it is understood that the following is the organization contemplated in war.

INFANTRY

Company	3 Officers, 128 men (in 2 Platoons).
Battalion	4 Companies, under a Major.
Regiment	3 Battalions, or 1,600 men, under a Colonel.
Brigade	3 Regiments, or 4,800 men.
Division	3 Brigades.
Army Corps	3 Divisions.

CAVALRY

Troop	3 Officers, 100 men (in 4 Platoons).
Squadron	4 Troops, 400 men, under a Major.
Regiment	3 Squadrons, or 1,200 men, under a Colonel.

ARTILLERY

Battery	4 guns, 4 Officers, 160 men.
Battalion	3 Batteries, under a Major.
Regiment	2 Battalions, under a Colonel.

CHAPTER XIV

COMPOSITION OF NATIONAL ARMIES

It may be of interest to glance at the strength of the Forces which the chief military nations will put into the field at the outbreak of war. The strength depends essentially on the number of organized Formations of Troops. It would be quite erroneous to estimate it by the total number of individual soldiers which the nation is estimated to possess.

Large numbers of untrained men, without organization to embody them in, add little to actual military strength.

ARMIES OF FIRST LINE

The Army which will take the field at the outbreak of war is the Regular Army, which is organized, kept up, and trained, year by year, in peace. The War Army will be this Peace Army *mobilized*, or brought up to war strength and completed in every essential, by calling up reserve officers and men to fill its ranks.

The Force thus produced is the "Army of First Line," and its strength is measured by the number

of the main Sub-Commands (Army Corps or Divisions) which the peace organization indicates that it is intended to form on mobilization. The men in its ranks are from 20 to 30 years of age. The Army will, on mobilization, form large *depôts* for all its units, on which to draw for reinforcements.

ARMIES OF SECOND LINE (RESERVE OR TERRITORIAL ARMIES)

Most nations will also mobilize an "Army of Second Line," mainly composed of Reserve Divisions of Infantry. Some of these Divisions may be inserted in the Army Corps of the First-Line Force, as in France and Austria ; others may be added independently to some of the Armies, as in the German Army in 1866 and 1870 ; in some cases they may be formed into a separate Reserve Army, either for support of the Armies in the Field, or for special operations in a separate theatre. The main work, however, of the "Second-Line" Force will be to defend the Lines of Communication, and provide troops for Sieges, for Garrisons, and for Coast Defence. It will also have to guard the railways at home, keep order in the cities, guard frontiers, and take charge of prisoners. Germany provides an Army of Third Line, called the Landwehr or Home Defence Army, for the latter purposes.

Until late years no country but Prussia had an Army of Reserve, or a "Territorial Army." Its formation to replace loose levies, or "National Guards," has been a great step in organization for

war. The latter, being practically improvised bodies, were deficient in discipline and cohesion, even if inspired by patriotism and courage. Territorial Forces, on the contrary, are to some extent organized, at least with "cadres"—that is, in skeleton—the officers for them being allotted beforehand; their personnel, too, will consist to some extent of men who have had more or less training; their arms and equipment can be provided in peace. The process, therefore, of mobilizing a Territorial Force will be far less hasty and confused than in the case of new levies. At the same time, "Second-Line Armies" are never so well organized as those of First Line. They comprise an undue proportion of Infantry to the other Arms, and will be weak in Cavalry, guns, and Engineers; their Administrative Services will be mainly improvised; they will be officered by old regular officers, or non-professional younger ones; the men will have been some years away from the ranks, and their training will be rusty. The formation, too, of Reserve Units will generally have to be postponed until the heavy work of mobilizing and concentrating the First-Line Army is completed. In German opinion the Reserve Army is not fit to be placed in first line at the beginning of a war.

The British Territorial Force differs from all others in being completely organized with a correct proportion of all Arms and Services, and provided in peace with Subordinate Commanders and their Staff, besides being trained annually.

RESERVES

In addition to the above Reserve Forces, all foreign nations possess a last resource in the shape of a great number of men, many of whom, however, have received no training at all. Being totally unorganized, they could only be used as reserve men to fill the depôts of the organized Forces, and should not rightly be counted in to swell the numbers of available troops.

It may be of interest to glance at the actual forces which Germany could produce for war, as her army may be taken as the best developed example of the modern national armies of Europe.

A. Army of First Line: 23 Army Corps and 14 Cavalry Divisions, with their Depôts.

B. Reserve Army, of Second Line: 48 Infantry Divisions, formed by Cadres taken from the Standing Army in peace, and filled by men who have passed through the Army into the Reserve.

C. Landwehr Army, of Third Line: 30 to 40 Brigades of Infantry—that is, 1 per Division, or perhaps only 1 per Army Corps, of the Standing Army.

Cadres for *B* and *C* are formed as follows :

Each *Infantry Regiment* of the Army in peace forms on mobilization :

(a) A Depôt for itself, to supply drafts.

(b) A Reserve Regiment for *B*.

(c) 1 or 2 Companies of a “Landwehr” Regiment for *C*.

Each *Cavalry Regiment* forms its own dépôt with its 5th Squadron, and provides 2 reserve Squadrons for *B* and *C*.

Artillery and *Pioneers* form a few units for *B* and *C*.

The *Train* does the same, but can only supply rudimentary units.

TABLE OF WAR STRENGTHS OF THE
VARIOUS POWERS

TOTAL WAR STRENGTH

The following table shows the strength of the Armies of First and Second Line which could be put into the field by the various military nations at the beginning of a war. The strength is shown in Army Corps and Divisions, and the Armies are placed in two Categories :

A. The larger ones, organized by Army Corps.

B. Those organized by Divisions.

The strength shown does not include Troops raised in the Colonies, nor those garrisoning outlying possessions, such as the Russian Army Corps in the Caucasus and Siberia, or the British garrisons of Coaling Stations.

The British 7th Division, made up of the Mediterranean and Cape garrisons, and the French Army Corps in Algeria, are, however, included.

The numbers of Cavalry and Reserve Divisions are conjectural, as in most cases they are only formed for war.

A. ARMIES ORGANIZED BY ARMY CORPS

Nation.	Army of First Line.		Army of Second Line.
	Army Corps.	Cavalry Divisions.	Reserve Divisions.
Russia	31	30	52
Germany	23	14	48
France	21	8	38
Austria-Hungary . .	16.	8	16
Italy	12	4	12

B. ARMIES ORGANIZED BY DIVISIONS

Nation.	Army of First Line.		Army of Second Line.
	Divisions.	Cavalry Divisions.	Reserve Divisions.
Turkey	21	6	24
Japan	19	4 Brigades	?
Great Britain . . .	7	1	14
India	9	3	—
Spain	14	—	—
Bulgaria	9	—	—
Switzerland	6	4 Brigades	—
Other Nations of Europe	3 to 6	—	—

PART IV

HISTORY OF ORGANIZATION

INTRODUCTION

THIS interesting subject can only be treated very cursorily, but it is hoped to present a general view of the developments which have taken place in the organization of armies in the field, since the introduction of firearms.

The method adopted for describing this process of evolution is as follows :

The beginnings of organization, and the earliest organized forces—those of the Reiters and Landsknechts in the fifteenth century—are briefly described.

An account follows of the subsequent development of organization in each Arm of the Service separately, noting especially the armies which stand out as the best organized of their time—namely, the Dutch Army of Maurice of Nassau, and the Swedish of Gustavus Adolphus.

A description is given of the “New Model” Army raised by the Parliament in their struggle with Charles I., which is a typical example of seventeenth - century organization. The New Model is of especial interest to Englishmen, not only from the unmatched quality and unbroken success which make it one of the most remarkable

armies in history, but because its organization still survives to a great extent in the British Army of to-day.

After describing the organization of armies during the eighteenth century, the great changes introduced in the wars of the French Revolution are discussed, and it is shown how modern forms of organization have resulted from them.

A chapter is devoted to the development of the Staff, and more especially that of the General Staff, and some remarks are then given on the evolution of the Services of Transport and Supply, and of Medical Organization for War.

Throughout these chapters notice is taken of the period at which our military terms were introduced, and the way in which they obtained their special signification—a subject of some interest in connection with organization. These facts are embodied for reference in a list of military terms, showing their origin and derivation, given in Appendix A.

In this connection it did not seem out of place to make some remarks on the inconsistencies and ambiguities of our present Military Terminology, with the view of pointing out the desirability of reforming it. These remarks are given in Appendix B.

CHAPTER XV

ORGANIZATION IN THE SIXTEENTH CENTURY

A SKETCH OF THE ORIGIN OF ORGANIZATION AS SEEN IN THE EARLY STANDING ARMIES OF EUROPE

THE organization of armies in the ancient world, or in Asia in more recent times, must be regarded as beyond the scope of this work. The history of Organization will be taken up at the time when the use of firearms had begun to revolutionize fighting, and transform the feudal levies of the Middle Ages into regular armies.

Modern organization dates from the close of the Feudal Epoch in the fifteenth century, after which wars were waged less for national purposes than for the furtherance of dynastic or State interests, and were no longer carried on by the levy of the nation, but by mercenaries hired by the Monarch or the State.

This process originated in Italy, where the rivalry of the trading republics caused them to engage Swiss, English, and other mercenaries to fight their neighbours. Hence we find that military organization in its modern form originated

in Italy, and that in consequence most military terms are derived from Italian, as may be seen in such words as *infantry*, *cavalry*, *colonel*, *squadron*, *battalion*, *regiment*. This nomenclature was definitely adopted by the French after their invasion of Italy in 1496, and, through French, has passed into universal use. Thus, by 1524, we find *Colonel* used in France, whence it reached England in the time of Elizabeth, along with *Regiment*, *Cavalry*, and *Infantry*.

Permanent regular forces are first found in France near the end of the fifteenth century, when the King raised *Companies* of men-at-arms (*gens d'armes*) or armoured horsemen, and of foot archers and halberdiers, of whom his Scottish Guards were the finest type. Up to that time the "Lance"—that is, the fully armoured knight with his retinue of a squire, a page, and three or four mounted men—formed the principal element of every military force. A number of such independent Lances, jealous of each other, and untrained to act together, could not be *organized* in the modern sense. Besides these mounted men, there was usually a mass of men on foot unarmoured and ill-armed, undisciplined and untrained. In feudal times it was only the English archers, the Genoese crossbowmen, and the Swiss halberdiers who had the discipline and training to make them of any account as Infantry.

The word *company* in its military sense denoted originally the gathering of feudal retainers who followed their lord to the wars; it then came to mean the band who obeyed a *Captain* (*caput*,

head), some noted leader among the mercenaries from whom regular armies sprang. The word *company* is derived from the Old French *compainie*, the Latin *companion-em* (*companion*), from *cum-pane* (*with bread*), implying an intimate association of men in one mess.

The Company of Horse was soon differentiated from that of Foot, by being called a *Troop*—a word of uncertain origin, by some connected with *turba* (a *crowd*), by others with the root of the Teutonic *treiben* (*drive*), and akin to a *drove*.

The strength of a Company was at first indefinite, and amounted to some hundreds of men, but it was gradually made smaller, so as to be more flexible and mobile. The practice of the most successful leaders finally reduced it to a definite body of about a hundred men, which it was found was the largest number which could with certainty be reached by the voice, and commanded by one man, in battle.

This strength of one hundred men was that of a Company of the Scottish Guards in France, and is found in England in the troops and companies of the army of Henry VIII.; it is still that of our Companies to-day.

The assemblage of a number of Companies and Troops made up the *Army* (from the French *Armée*, Italian *Armata*, or *armed host*). Its *Commander* (Old French *Commandaire*, Late Latin *Commandator*, a word which occurs in English in the fourteenth century) was styled the King's *Constable* (*Comes Stabuli*, or *Master of the Horse*), a dignity as old as the early Frankish

Kings. His Second-in-Command was the *Marshal* (Old French *Mareschal*, Late Latin *Mariscalcus*, from Teutonic *mara*, *horse*, and *skalk*, *servant*). Down to our day the title of the highest military rank in France has always been *Maréchal de France*. But there was also a *Maréchal de Camp* of lower rank, only immediately senior to a Colonel, so that the Germans made a mistake when, in the eighteenth century, they translated the latter, and not the former, title, and called their highest rank of Officer *Feld-Marschal*, which we have adopted as *Field-Marshal*. The difference between the two titles may be exemplified by Marshal Belleisle's remark on Montcalm's exploit at Ticonderoga: "If it were *possible* for the King to make a *Maréchal de Camp* a *Maréchal de France*, he would do it for Montcalm."

The term *Constable* for the Supreme Commander soon dropped out, and was replaced by *Marshal*, and later by *Captain-General*, which lasted down to Marlborough's time. The word *Commander-in-Chief*, which does not occur in English till the middle of the seventeenth century, came into use as the official title early in the eighteenth.

THE REGIMENT

It had become usual by the sixteenth century to raise soldiers by larger bodies than the Company or Troop, and these were called *Regiments*, from being under the *regiment*, or *rule*, of one man. This officer was called the *Oberst*, or *uppermost man*, in Germany, but in other countries the

Colonel. This word comes from the Italian *Colonello* (*little column*), which perhaps meant the leading Company, or that of the Colonel. In Spanish it is *Coronel*, which seems to have given rise to our pronunciation of the word.

The Colonel practically owned the Regiment he raised, and especially the first Company of it, from which he derived his emoluments. It thus became a practice for men of position to raise Regiments, first of Horse—then the nobler Arm—and later of Foot also. Such noblemen were often too busy, or too grand, to attend personally to their Regiment, and soon became mere absentees. Their Command was then gradually transferred to their *locum tenens*, the *lieu-tenant* of the Colonel, so called because the Command of the Company, or Troop, of which the Colonel was nominally the Captain, always devolved on his Lieutenant. Thus the officer styled the *Lieutenant-Colonel* began to act as Commander of the Regiment, as he is to this day in England.

EARLIEST REGIMENTAL ORGANIZATION

The origin of the modern organization of Regiments of Horse and Foot can be traced in most of its details to that of the German *Landsknecht* Infantry and *Reiter* Cavalry in Germany towards the end of the fifteenth century. The organization of both was nearly identical, being no doubt adapted from the Swiss, and the Italian *Condottieri*, or the English *Free Companies*, typical fourteenth-century mercenaries.

The Regiment was raised as follows : A leader of distinction, the *Colonel*, selected his *Captains* ; the latter raised the Troops or Companies to form the Regiment, by enlisting recruits in their districts with beat of drum and proclamation, exactly as in England for centuries later. The Captain of Horse was called *Rittmeister* (*Reiter meister*, or *master of Reiters*), and the Captain of Foot, *Hauptmann* (*Head-man*), as they are in Germany to this day.

The Colonel chose his *locum tenens*, or *Lieutenant*, as did also each Captain. A *Fähnrich* (*Flag-bearer*) was appointed to each Troop or Company, that his flag might present a conspicuous rallying point. To the Flagbearer was attached a *Trumpeter* in each Troop of Horse, or a *Fifer* and *Drummer* in each Company of Foot, so that the men could rally to the flag by sound, as well as by sight, in the confusion of battle. The flag of the Horse was triangular or hornshaped, whence it was called in French a *Cornette*, while that of the Foot was square, and termed the *Enseigne* (Latin *Insignium*). Hence the officers who carried the flags were later designated *Cornets* and *Ensigns*, in Cavalry and Infantry Regiments respectively. These titles for the junior Lieutenants who carried the flags survived in England till late in the nineteenth century, and it seems a pity to have replaced so picturesque and concise a designation of rank by the cumbrous and un-English term *Second Lieutenant*.

There were thus, in each Troop or Company, three Officers, the *Captain*, the *Lieutenant*, and the

Ensign, the same found in the subsequent organization of all armies.

Besides these three officers, each Troop of Reiters had a *Wachmeister*, and each Company of Landsknechts a *Feldwebel*, terms still retained in Germany with the meaning of *Sergeant*. This officer was of great importance in the unit, as he was charged with its drills in peace, and with its manœuvres in battle, when the other officers were in front fighting, and could not watch the men. As the Sergeant had to give orders in action, he became also responsible for Orders at all times, so that he was virtually a kind of Adjutant to the unit. In battle the Infantry Sergeant had to run up and down the Company to supervise its movements; he, therefore, could not well be encumbered with the long pike, but retained the earlier halberd, which survived as the special arm of the Sergeant of Infantry in England down to 1829.

There was similarly in the *Regiment* a corresponding officer, the *Sergeant-Major*, later styled simply the *Major*, as he still is. He was practically a Staff Officer, or Adjutant, to the Colonel, exactly as the *Sergeant* was to the Captain. He issued the Colonel's orders to the Sergeants, and was responsible for the drill of the Regiment, and its manœuvres in battle. He was therefore mounted, even in the Infantry Regiment, like our Adjutant to-day, in order that he might move rapidly up and down the Regiment, to superintend its movements and give orders to the Sergeants of the various Companies.

There was also in the Reiters a *Quarter-Master*,

the *Fourier* (as the French still style him), with a subordinate (now the Quarter-Master-Sergeant). His duties were to provide *quarters*, and, as the men had to be fed in these quarters, he became charged in addition with *subsistence*, exactly as is our Quarter-Master to-day. In old times the Quarter-Master was also responsible for *reconnaissance*, which was no doubt due to the fact that, having to precede the troops on the march, so as to provide quarters for them that evening, it fell to him to decide on the correct route, and he had, therefore, to reconnoitre to the front. What are now the Staff duties of reconnaissance and directing marches became thus associated with the Quarter-Master of each unit, and afterwards with the corresponding officer, the Quarter-Master-General of the whole army. Therefore, down to a few years ago, the Q.M.G. was charged with all Staff work connected with marches, routes, reconnaissance, and information—a curious survival through four centuries of the organization of the Reiters.

As regards subordinates, or, as we should now say, non-commissioned officers, there was a *File-Master* (*Rottmeister*) at the head of each file, for the Troop or Company was drawn up in very deep formation. This specially selected soldier was called *Capo di Squadra* (*Head of the Squad*) in Italian, a reminiscence of the early formation of the smallest fighting body (our *Squad*) in a square (*Squadra*). From *Capo di Squadra* came the French *Caporal* (which we have rendered *Corporal*, by false derivation from *corporalis*, *corpus*,

body), who is still the Squad leader. The fact that they originally stood in the ranks at the head of the files accounts for the inclusion of Corporals, but not Sergeants, in the expression *Rank and File*, for the Sergeants were out of the ranks, superintending the men, as they are to-day.

The organization of a Regiment of Reiters or of Landsknechts, as described above, became by the end of the sixteenth century general in all armies, and has, in essentials, survived in modern Regimental organization. The Regiment bore the name of the man who raised it or succeeded to its command, down into the nineteenth century, although *Numbers* began to replace personal *Names* as titles of Regiments, during the eighteenth. The Regiment, whether of Cavalry or Infantry, was rather the administrative than the tactical unit on the battle field, and formed, as to-day, the permanent organization through which the men received their pay, clothing, and subsistence. Hence arose the strong and lasting regimental traditions and esprit-de-corps, which survive in the older armies to-day.

The first country to possess a formidable Standing Army was Spain, in the sixteenth century, and her example was soon followed by France, the Empire, and the Netherlands, and in the next century by Sweden, England, and Prussia.

The most important developments in war organization were due to great military reformers, whose armies became the model of their day to all other countries. These were Maurice of Nassau, who led the Dutch in their terrible struggle with Spain towards the close of the sixteenth century, and

Gustavus Adolphus, King of Sweden, who a few years later formed the famous army which carried all before it during the 'Thirty Years' War. The improvements introduced by these great soldiers will be described in the following chapters, which deal with the evolution of the organization of each Arm separately.

CHAPTER XVI

THE EVOLUTION OF INFANTRY

DURING the sixteenth century, foot soldiers began to be called *Infantry* (French *Infanterie*), after the practice of the Italian *Condottieri*, who used to call their soldiers their "lads," as English officers have always had a habit of doing. They used the word *Fanti*, from Latin *Infans*, a child who could not talk (*in*, *not*, and *fari*, *speak*). Similarly, Blücher addressed his men on their toilsome march to Waterloo as "meine Kinder" ("my children"), and Americans talk of their soldiers as "the boys."

The rise of Infantry from its position of abject inferiority to the mounted men-at-arms may be dated from the fourteenth century, when English archers overthrew the chivalry of France at Cressy and Poitiers, and Swiss halberdiers that of Austria at Morgarten and Sempach. In the next century the Swiss phalanxes (who had now replaced their halberds by pikes) defeated the Burgundian Horse at Morat and Nancy, thus assuring the independence of their country. About the same time the Hussite peasants of Bohemia, effectively organized

by their great leader, John Zisca, were holding their own against the horsemen of Austria. Towards the end of the fifteenth century a new type of Infantry arose in the Suabian Landsknechts (country fellows), an appellation corrupted into "Lance Knights" in England, and "Lansquenets" in France. They imitated and improved on the organization and tactics of their neighbours, the Swiss, and soon began to rival them as Infantry.

THE HALBERD AND PIKE

Like the Swiss, the Landsknechts were armed with the long pike. The halberd, discarded during the fifteenth century, was a formidable weapon, with its triple combination of pike head for thrusting, axe blade for striking, and crook to drag the horseman down. But its eight-foot shaft was not so effective against a charge of Horse as a hedge of eighteen-foot spikes, with butts on the ground, in the hands of half-a-dozen ranks, one behind the other. The pike now became the general arm of Infantry, and only finally disappeared in 1700.

THE FIREARM

Modern Infantry, however, knows not the pike, and may be said to have really originated when firearms were first carried by foot soldiers. Of these weapons the first was the *arquebus* (*arc-bouche*, or *bow with a mouth*), a short tube carried in a small log or stick, the *stock* (German for *stick*). The charge was fired from the breast by applying, to a hole called the vent, the lighted end of a

match, or rope steeped in saltpetre so as to smoulder. In the fifteenth century we find the arquebus made longer, and of smaller bore, and the stock shaped so as to fire from the shoulder. It was then provided with a cock to hold the match, and bring it down at the side of the barrel on a pan filled with a priming of powder, which fired the charge through a side vent.

About 1520 the Spaniards began to make several improvements in the firearm. It was made of larger bore, and all were of uniform calibre, whence it was called a *caliver*. Being heavier, a forked rest was provided to fire from. About 1530 a lock, copied (like the shaped stock) from the crossbow, was added, so as to bring the cock and match sharply down on the pan. The perfected matchlock was called a *musquet*, and its use spread from Spain into Flanders, and thence through Europe in the sixteenth century. In the next century it was made lighter, which allowed the rest to be abolished.

The *musket*, as it was spelt later, then became the general firearm of the Infantryman or Musketeer, until replaced by the rifle in the nineteenth century.

MUSKETEERS

At first, only a few picked men were armed with muskets, and were styled "the Shot." They were employed to skirmish on the flanks of "the Pikes," among whom they took refuge when attacked. But as their efficiency and fire power increased, Musketeers grew in importance and numbers, till the end of the sixteenth century,

Maurice of Nassau had an equal number of soldiers termed "Shots" and "Pikes" in his Companies. Infantry had now asserted its superiority to Horsemen, who could neither break the central mass of Pikes, nor endure the fire of the Musketeers on the flanks.

INFANTRY, UNDER MAURICE OF NASSAU

Maurice's army represented the best organization of the period, and was the model followed fifty years later in the Parliamentary wars by his British allies in the Netherlands. His Companies and Regiments were not yet of fixed strength; they were organized on the same lines as the Landsknechts, but were formed of equal numbers of Pikemen and Musketeers. He introduced the division of the Company into three Sections, each under an Officer, with a Corporal, two Sergeants, and three Drummers. Maurice, owing to improved drill and discipline, was able to reduce the deep formations of his day to ten ranks, which was the least which would give continuous fire by the method then necessary, which consisted of each man retiring to the rear when he had fired, so as to get time for the slow operation of reloading.

BRIGADES

Maurice drew up his army for battle according to the old Swiss fashion in three lines, styled "van," "battle," and "rear," and each line constituted a *Brigade*, a new, but as yet an indefinite, unit, composed of several Regiments. This is the

first introduction of that term, which is derived from the Italian *briga*, French *brigue* (a quarrel), and means "a band of opposing combatants."

BATTALIONS

The *Battalion* has, from the fifteenth century onwards, always been the fighting unit of Infantry. *Battalion*—French *Bataillon*—is in Italian *Battaglione* (*battaglia*, or *battle array*).

In the early sixteenth century, when the *Company* was only an administrative unit, the *Battaglie* were its tactical subdivisions, and formed small units fighting separately. Hence *Battaglione*, "the great *battaglia*," was the name given to a large fighting unit and consisting of a mass comprising several Regiments and some thousands of men. This "Battalion" was gradually diminished in size, to meet changes in tactics which demanded a more flexible formation for mobility, and a smaller target, less vulnerable to the rude artillery of the day. The experience of the more successful leaders pointed eventually to forming a Battalion of a few hundred men, so that two or three could be furnished by a Regiment, instead of forming a huge Battalion of several Regiments. The fact that sometimes the Regiment formed only one Battalion accounts for the constant confusion between the two terms, and their indiscriminate use even to-day.

SPANISH INFANTRY—SIXTEENTH CENTURY

The remarkable efficiency of the Spanish Infantry which was fighting against Maurice for the

domination of the Netherlands should not be overlooked. They had, besides musketeers, bodies of swordsmen with bucklers, active enough to overcome the pikemen. The Spaniards were the first to establish depôts for their army in war, where recruits could be trained by a few old soldiers. Their Regiments were of some 1,700 men, and the Companies varied from 150 to 300. The good order of the Spanish Army, and its strict discipline, were its most remarkable features. In the latter half of the sixteenth century the Spanish Infantry was undoubtedly the best in Europe.

INFANTRY UNDER GUSTAVUS

The next development of Infantry is seen in the Swedish Army as organized in the 'Thirty Years' War by the great Gustavus Adolphus, King of Sweden. Its efficiency and success made it the model of the organization of all the armies in Europe, and they still retain its main features.

Gustavus modelled his army on that of Maurice, but made many improvements in it. His purpose was to increase mobility, and to adopt a definite organization of units. With the first object, he lightened the musket, so as to do away with the cumbrous rest, and increased rapidity of fire by adopting a cartridge to hold the powder. He added to the Musketeers till they equalled the Pikemen, and improved the mobility of the latter by shortening the pike.

As regards organization, he adopted Brigades much smaller than those of Maurice, and made

them a definite unit of two Regiments of Infantry, as they still are in every foreign army.

The Regiment had always been the administration unit, and the Battalion the tactical unit. Gustavus definitely fixed the size of the Battalion, two of which formed a Regiment. Here we find the origin of the two-Battalion Regiment, which was universal in Europe for the next hundred years.

The Regiment was 100 strong, and was divided into eight Companies, so that the Battalion had four Companies. Hence we find that Battalions in foreign armies have always had four Companies, putting on one side the Grenadier and Light Infantry Companies, which were added later, as described on page 190. The British Regiment, which was not divided into Battalions, kept the eight-Company organization of Gustavus, and, when eventually a second Battalion was added, it kept the same number of Companies.

The Regimental Officers were those of the Landsknechts—the *Colonel*, the *Lieutenant-Colonel*, and the *Sergeant-Major* or Staff Officer, called later the *Major*. Four Surgeons were added to the Regimental Staff, which was a new departure, as up to this time medical arrangements had been the concern of the Captains only.

The Company comprised 72 muskets and 54 pikes, and was divided into six Sections, each under a Corporal, four being of musketeers and two of pikemen. The two Sections of musketeers on each flank formed a new fighting unit, the *Platoon* (French *peloton*, a *little bundle*), which

could act independently of the rest of the Company under the Lieutenant or Ensign, while the Captain commanded the two centre Sections of pikes. When pikes were eventually given up, the centre Sections disappeared, and the two Platoons on the flanks then constituted the whole Company. A Platoon thus became a Half-Company, as the *Peloton* still is in France. *Platoon fire* (Half-Company volleys) was in use in the British Army till the nineteenth century.

There were thus eight Platoons in the Battalion. We shall find that they still formed the fighting units in the Infantry of Frederick the Great, the Companies being then only the administrative units, although they subsequently superseded the Platoons as the fighting units of the Battalion.

The Company Officers were, as in the Landsknechts, the *Captain*, the *Lieutenant*, the *Ensign*, and the *Sergeant*. The latter had an assistant, the *Second Sergeant*, and there were 4 *Under-Sergeants*, besides the 6 *Corporals* of Sections. Three Fifes were added to the three Drums in each Company, in which we see the origin of the Drum and Fife Band.

FRENCH INFANTRY

During the wars of Louis XIV., in the latter part of the seventeenth century, the development of Infantry was advanced by the reduction of the number of pikes to one-third of the Battalion, and then to a quarter and a fifth, till at last they were only found in a central group in each Company,

so small as to be called a *Picquet*, or “*little body of pikes*,” whence the word *Picket*, meaning the Support of the Outposts, probably because the musketeers furnished the sentries and the pikes the Support.

The pike was replaced in France about 1670 by the *bayonet*, named after the city of Bayonne, and probably suggested by the habit of the Basques of fixing the wooden handles of their long knives into the muzzles of their guns when smuggling in the Pyrenees. As the musket could not be fired with the bayonet fixed, its use was inconvenient, till the idea occurred about 1700 of attaching it by a ring clasping the muzzle. The British Army adopted the bayonet by 1688. The musketeer had become virtually a pikeman too. The pike, now unnecessary, was abolished in all armies about 1700, but in England it survived for a century in the *spontoon*, a short pike carried by junior Officers, just as the halberd had survived for Sergeants.

In the French Army, under Louis XIV., we find the *Brigade* an important unit in the organization of Infantry. Colonels were selected for this Command, which gave an opportunity for promoting the best men, without infringing the vested right of the Colonel to his own Regiment.

One of the early Brigadiers so selected was the famous Martinet, whose discipline has become proverbial. He was Colonel of the Model Regiment formed in 1668, and afterwards Inspector-General of Infantry.

FUSILIERS

After the middle of the seventeenth century an important change in the firearm was invented, by which the charge was ignited by flint and steel instead of match, giving more certainty to the fire. The new flintlock was called a *fusil* (from *fucile*, *flint*); it was at first given to picked shots, called *Fusiliers*, for skirmishing work, but about 1700 all Infantry were armed with flintlocks. It was introduced in Great Britain in the shape of "Brown Bess," the musket used until rendered obsolete by the introduction of the percussion cap in 1840.

The individual Fusiliers carried out what were later termed the duties of Light Infantry (see p.188). By their superior shooting and activity they were better fitted to move rapidly in front of the heavier Infantry, so as to annoy the enemy by their fire, and clear the way for the main body. These Fusiliers were before long grouped into separate Battalions of Fusiliers, which were created in France in 1671, and later in England and Prussia, where they survive to this day.

GRENADIERS

" During the Thirty Years' War *grenades* (*grenada*, the *pomegranate*) or hand-thrown bombs were introduced. This brought in another variety of Infantry. *Grenadiers* were powerful, tall men, picked from the Battalion to throw the grenades. They were soon collected into one "Grenadier

Company," which was added to those of each Battalion, and took its place on their right.

This was done in France in 1667, and in England in 1678. Grenadiers then gave up their special duty, and were armed with the *fusil* for Light Infantry duties, for which, however, they were eventually found too heavy and slow.

The Grenadier Company continued during the eighteenth century to form the right Company of the Battalion in most European armies. Some of the Grenadiers were assembled in special Grenadier Regiments, like the "Grenadier Guards" in England. In Germany and Russia the title exists to this day, although the special functions of Grenadiers have been obsolete for two centuries.

Thus, during the later portion of the seventeenth century, there were four different kinds of Infantry—*Pikemen*, *Musketeers*, *Grenadiers*, and *Fusiliers*.

The changes in armament had the effect of reducing the number of ranks in battle. The first phalanxes of pikes had 25 ranks, which Maurice reduced to 10, and Gustavus to 6; by 1700 the number of ranks had become 4, which Frederick reduced to 3, and Wellington, on entering Spain in 1808, to 2. Two ranks became the rule in Great Britain in 1824, and in the French service in 1859. The Prussians were the last to give up three ranks, in 1888, but the third rank had long been used only for skirmishing.

LIGHT INFANTRY

The changes in the evolution of Infantry may be seen to be due to an ever-acting desire to have some picked troops, more mobile, and better armed than the rest—that is, *Light Infantry*, as they were styled later. The object of these troops was that they should act in advance, or on the flank, of the main portion of the army. They would thus guard it against surprise when at rest, or on the march, or in battle break the force of the attack by what became known as *skirmishing* (from Italian *scherma*, *fencing*). Such Light Infantry were first seen at the battle of Pavia, in 1525, when 1,500 arquebusiers were extended in front of the Battalions. At first these picked troops were formed out of each Battalion, but there arose a general tendency to gather them under one Command, and form them into special Companies. The same tendency soon began to group these Companies into special Battalions, which gradually lost all idea of their special functions, and tended to become ordinary Infantry, while retaining their original special designation. We see this process acting when the Grenadiers were found too heavy for “light Infantry” work; and these duties were then allotted to the “Fusiliers,” or picked shots armed with the light fusil, who eventually became Fusilier Battalions. These, like the Grenadier Battalions, had by the end of the seventeenth century given up their distinctive mode of action, and become identical with the rest of the Infantry, while retaining the title of

Fusiliers; so that when Pikemen were abolished, soon after 1700, there existed only one sort of Infantry, although certain Regiments and Companies were termed Grenadiers and Fusiliers.

LIGHT INFANTRY AND RIFLES

But after all these changes the need of Light Infantry in war remained none the less urgent, and again special troops began to be formed for Light Infantry duties. Thus, Infantry, which had just been reduced to one type, once more differentiated during the eighteenth century into two kinds—ordinary and light Infantry.

The process began during the Seven Years' War about the middle of the eighteenth century. The Austrian Light Infantry, called *Freischarren*, or "free hordes," irregular troops formed from the less civilized races in the army, caused the Prussians constant annoyance. This led Frederick the Great to copy the idea, by collecting Austrian deserters, and smugglers and wilder spirits from among his own people, to form Light Infantry. He also raised from foresters and gamekeepers special troops called *Jägers*, literally "huntsmen," who were armed with the more accurate rifled musket used for sport, and were well fitted for sharpshooting. The French followed suit, and in 1759 formed Corps of *Chasseurs* (the equivalent word to *Jägers*), and in 1805 raised light troops of small men, called *Voltigeurs*—that is, "men who can turn quickly," from their agility. The British, too, began to form Light Infantry out of their newly raised

Highland Corps about the middle of the eighteenth century. Later, in consequence of British experiences in America with the backwoodsmen—good shots using rifles—special Battalions of Rifles, like those of France and Prussia, were raised before the end of the century.

These various descriptions of light troops in all armies were sharp-shooters, armed with rifles, and accustomed to independent action at the front. Their development followed two separate lines. The Light Troops were attached to each Battalion in the form of a *Light Infantry Company*, or sometimes grouped in special Battalions styled *Light Infantry*, a title they still keep. The riflemen formed the Battalions of *Rifles*, which still exist in all armies under various names, but clothed generally in the green uniform which German gamekeepers still wear. Green was the customary dress of a forester, as we are reminded by the common sign for a country inn—"The Green Man." The addition of one or two Light Infantry Companies, and sometimes of a Grenadier Company, raised the number of Companies in a Battalion to ten in England, five in Prussia, and six in France, during the late eighteenth century. Napoleon's Battalions had six Companies, as had all armies on the Continent (except the Prussian) up to 1866, after which the Prussian organization, with four, was introduced, and still rules. French Chasseur Battalions (Rifles) have retained six companies, as a more supple and mobile organization for their special duties.

The Light Infantry Companies were much used

during the Napoleonic wars, but were soon afterwards abolished. The Rifle Battalions gradually lost their special character as Light Troops, while retaining their uniforms and designations, and are at present armed, trained, and used exactly like ordinary Infantry, which has, however, adopted their rifle and their extended formation in battle.

The tactical work of Light Infantry may perhaps be said to be now done by Mounted Infantry, and it may be asked whether the Rifle Regiments of the British Army might not have taken up the duties of Mounted Infantry, for which they seem suited by their origin as picked troops, and their Peninsular reputation and regimental traditions of mobility and independent action. In Germany a similar suggestion has been recently made to provide Rifle Battalions with cycles, and send them out to the front with the Cavalry—in fact, to turn them virtually into “Mounted Infantry” on cycles.

CHAPTER XVII

THE EVOLUTION OF CAVALRY

MODERN Cavalry has perhaps but slight claim to be descended from feudal Chivalry. The Man-at-Arms, the fully armoured Knight, with his mounted retinue of a squire, a page, and a few retainers, acted indeed by "shock," but *individually*, with jealous independence of his fellow knights; whereas the efficiency of Cavalry action has from the first rested on a combined disciplined attack. But the traditions of Chivalry may be traced in the "Cavalry Spirit," which preaches, like Danton, "de l'audace, encore de l'audace, et toujours de l'audace," and in the prestige which still clings to the Mounted Arm. Cavalry has never forgotten its aristocratic and romantic ancestry, and is inclined to look down somewhat on the Infantry without whom battles cannot be fought, and still less won. Cavalry is to this day the premier Arm in the British and in many other Armies. In Germany the logical insight of the Hohenzollerns has long since made Infantry the senior Arm of the Service.

The word *Cavalry*—French *Cavallerie*, Italian *Cavaleria*—is, like *Chivalry*, derived from the Late

Latin word *caballus*, in common use for horse when *equus* had become highflown. But *caballus* became *cheval* in Early French, whence *Chivalry*; while the Italian *Cavaleria* was directly derived from *caballus*. The Knight's arms, the sword and lance, are still those of Cavalry, and his armour survives in the metal helmet and cuirass.

The introduction of pikes and firearms for Infantry was the cause of the extinction of the man-at-arms, although he met them by himself adopting a firearm for use on horseback. This was at first the *petronel*, or *poitrinal*, fired from the breast (*poitrine*) on a rest rising from the saddle bow; then the *harquebus*, or match lock fired from the shoulder; later the *pistol*, a shorter and lighter weapon, used with one hand, which was introduced in Spain in 1520, and in Germany in 1540. But by 1500 fire action had attained superiority over shock action, and the mounted men in armour became definitely inferior to the Infantry, whose bullets pierced their armour, and whose pikes they could seldom break through. Armour was reduced to helmet and cuirass, and the lance given up, not to be revived till two centuries later.

ORIGIN OF TRUE CAVALRY IN THE "REITERS"

We first find true Cavalry of the modern type in the German "Reiters" of the early sixteenth century, who were disciplined troopers, acting in rank and file in organized bodies, as distinguished from the individual man-at-arms of feudal days. The organization of the Reiters is practically the same as that of the infantry

Landsknechts already described. They were similarly raised by their Captains, in bodies termed *Troops*, a name which was soon replaced by a tactical unit composed of several Troops, which arose from the tactical requirements of the battlefield. This was the *Squadron*, a word derived from *squadra*, Italian for *square*, because the earliest bodies of horsemen had equal front and depth. The numbers in a Troop depended on the popularity of the Captain ; but Squadrons were of a strength based on the fact that one man could command by voice a body of Cavalry with a front of 50 men. Thus the "Reiter" Squadrons with six ranks were 300 strong, but those of Gustavus, with three ranks, had 150 men. This is still the strength of a Squadron to-day.

The Officers of the Troops of Reiters were the *Captain*, still called *Rittmeister* (or "*Reiter*"-master) in Germany to-day ; the *Lieutenant* ; the *Fähnrich* (or *Colour-bearer*) ; the *Wachmeister* (or *Watch-master*), as the Sergeant-Major is still called ; the *Fourier* (or *Quarter-Master*), charged with allotting quarters and subsistence, and also with reconnaissance, as explained on page 174. He had an assistant, answering to our Q.M.S. Each Troop had a *Trumpeter*. He accompanied the Colour-bearer, whose hornshaped pennon (*Cornette* in French) gave its name to the officer carrying it, known as "Cornet" down to our day.

The Reiters carried sword and pistol, and wore helmet and cuirass. They were the ancestors of all Heavy Cavalry, generally called *Cuirassiers* abroad, but simply "Regiments of Horse" in Eng-

land during the seventeenth and eighteenth centuries. There were always less regular Cavalry, or *Light Horse*, for scouting, pursuit, and independent action to front and flanks. This division of duties and names has long survived.

To obtain better fire effect, Henry IV. of France armed his Horse with a short arquebus called a *carabine*, whence the *Carbineers*. In Italy a larger firearm, called a *dragon*, was given to horsemen, so as to enable them to use fire with more effect when dismounted. Hence originated *Dragoons*, originally merely Mounted Infantry. We have thus got the three Arms of the Service, as commemorated in the old expression *Horse, Foot*, and *Dragoons*, to denote the whole Army; for Artillery did not become an Arm before 1700.

Towards the end of the sixteenth century, under Maurice of Nassau, the organization of the Dutch Cavalry was further developed during the War of Independence against Spain. His Squadrons were fixed at 120 strong, with the three Officers and the Trumpeter of the Reiters, but were now divided into three Sections, each under an Officer, with a Corporal. These represent the existing *Troops*. A Farrier was added to the troop for shoeing and veterinary work. Improved drill and discipline enabled Maurice to reduce the ten ranks of his day to six.

Gustavus organized the Swedish Army on the same lines as Maurice, but improved on his model in Cavalry, as in other Arms. His Troops were smaller, only 70 strong, and were grouped in Regiments of 8 troops. He was the first to

inculcate *shock* tactics, which he facilitated by reducing the ranks to four, and discouraging firing from horseback.

After Gustavus' brilliant success in the Thirty Years' War, the use of shock tactics was carried on in England, but was not imitated in other countries. Cromwell, seizing on the idea with his unfailing military insight, taught his Ironsides to charge home, and especially to rally after the charge. He established an undying reputation as the first great Cavalry leader in the modern sense, and his horsemen were never equalled till Seidlitz appeared and led Frederick's Cavalry in the Seven Years' War a century later. Neither of these two great soldiers has ever been surpassed, or indeed approached, as a leader of Cavalry.

During those hundred years Cavalry continued to fire from their horses, and charge at the trot. Even long afterwards, Napoleon's Heavy Cavalry did not gallop. But Cavalry began to find their true mode of action when Marlborough and Charles XII. of Sweden expected their Horse to charge without firing.

Frederick the Great, however, was the first to initiate true Cavalry Tactics. He forbade any firing from horseback, formed his Cavalry in two ranks, and trained them to charge boot to boot in long lines of scores of Squadrons. He insisted on high speed over long distances, and adopted the plan of charging in three lines—the first of Cuirassiers, the second of Dragoons as a support, and the third in columns to protect the flank. The training and tactics of Frederick's Cavalry have never

THE EVOLUTION OF CAVALRY 197

been improved on, and are still the model for shock action. Frederick's Cavalry was organized, like that of Gustavus, in Troops of 70 men, of which two, or, later, four smaller ones as in Europe to-day, formed a Squadron. The Regiment had 5 Squadrons, as it still has in Germany, although the fifth now becomes the *depôt* of the Regiment on mobilization.

LIGHT HORSE

During the Seven Years' War, Austria made good use of a screen of *light troops*, both Horse and Foot, in front of her armies. Her Light Horsemen had been very serviceable in the Thirty Years' War in the previous century, and had been constantly used since in fighting the Turks. These horsemen were irregular troops from Hungary, where they had been raised since the sixteenth century under the name of *Hussars*. They wore the national dress of Hungary, which Hussars have retained ever since they were imitated by Frederick during the Seven Years' War, and in other armies later. *Lancers* were similarly copied everywhere from the Polish Light Cavalry, clothed in their national costume, who joined Napoleon's service in 1807. The lance, which had not been used since the early sixteenth century, was then reintroduced, and has since held its own, and even won ground in Germany. The British adopted Lancers after their experience against Napoleon's Polish Lancers at Waterloo. The Prussians called them *Ulans*, from the Polish, while other nations adopted the French word

Lancier, from the Late Latin *lancearius* (*lancea*, a lance).

British Light Cavalry began in the eighteenth century, in the Light Troops of the Dragoon Regiments, soon detached to be grouped into Light Dragoon Regiments, which, early in the nineteenth century, were changed to Hussars.

After firing on horseback had been stopped by Frederick, Cavalry discarded the firearm until the close of the century, when the French Light Horse of the Revolutionary armies received a short musket, called by its old name of *carbine*, which became the universal Cavalry firearm for use on foot. But Heavy Cavalry had no firearms for years; even in the Prussian Army of 1870 only Light Cavalry were armed with the carbine.

Cavalry Regiments were first brigaded during the eighteenth century, but had no higher organization. The Brigade formed one of the lines of Cavalry on each wing of the Army. Cavalry Divisions were first formed by Hoche in 1793, and were adopted by Napoleon, who extended the idea later to creating Cavalry Corps of two or more Divisions.

CHAPTER XVIII

THE EVOLUTION OF ARTILLERY AND ENGINEERS

THE early history of the Engineers and the Artillery in England may be traced in the continued existence, from the Conqueror to Henry VIII., of a high official called in Latin documents the King's *Ingeniator*, because he had charge of *Engines* of War (Latin *ingenium*). About 1300 the *Ingeniator* (or *Engyneor*, as he was called in English, from the Old French *Engineur*) became styled *Attilator* (probably a slovenly rendering of *Artillator*), from the fact that, having charge of the engines of war, he naturally took over the latest form of them, the new invention of *artillery*. This word is derived from the French *artillerie*, which meant the art of the *artilleur*, or *articulier*, from *articularius*, or the man who handled *artacula*, the *articles* or the "*things*," as the newly invented guns began by being styled, that word being a diminutive of *art-em*, *art*.

THE ARTILLERY

The word *artillery* meant in the sixteenth century the guns used by the *artilleur*, but did

not denote the Arm of the Service till the end of the next century, before which time Artillery had hardly an independent existence, but formed merely a portion of the train, or mass of vehicles which followed an army.

GUNS

Cannon were at first used in fortresses during the fifteenth century, soon after the invention of gunpowder. They were soon mounted on wheels, and then provided with trunnions and a trail. They seem to have been first brought into the field by the Hussites in Bohemia, and then in the French invasion of Italy in 1496. The French added the limber to carry the trail on the march, and thus finally gave guns the form they still have. In the mid-sixteenth century the armies of three great monarchs, the Emperor Charles V., Francis I. of France, and Henry VIII. of England, possessed a train of cannon for the field.

At this epoch there were many descriptions of mobile guns of various calibres: the heavy, 42- and 24-pounders, for siege purposes chiefly, were drawn by several yoke of oxen; the lighter ones, for use in the field, fired 2, 4, or 6 pound shot, and were drawn by horses in single file. The drivers, till the end of the eighteenth century, walked on foot beside their horses, carrying carters' whips, and were civilians, hired with their teams from the country. To keep them from running away, the train of guns and wagons carrying ammunition were under an escort of Infantry,

who were only much later used for protection of the guns.

The working of the gun, and its technical mysteries, were in the hands of the *Master Gunner*, with his *Gunner* and two assistants for each gun. In England these gentry were apart from the army, and solely controlled by the *Master-General of the Ordnance*, as the Artillery and the nearly related Engineers remained down to our own time.

Maurice, about 1600, did away with the great variety of guns which existed, and retained four different calibres only, so as to facilitate the supply of shot. Gustavus, a little later, introduced lighter guns, and cartridges for the powder, which till then had been carried loose in barrels. But his main innovation was the allotment of two light guns to each Infantry Battalion, for action in the intervals between Regiments, an organization retained in most armies till the end of the eighteenth century. These "Battalion guns" were drawn by one or two horses, or by men when under fire, and were often served by the Infantry they were attached to. He used the heavier guns in masses on the wings and in the centre; but no Battery organization came in till late in the eighteenth century. In France, under Louis XIV., the step was taken of creating a Regiment of Artillery, formed of Gunners and Artificers, the Drivers being still hired. This idea was partially copied in England, where the Artillery was organized into a Military Corps in 1716. Other armies formed Companies of Artillery, but had no Regimental organization till much later.

Shells were first used in the field about 1700, they fired from what were called *Hautbitzers*, now *Howitzers*, a Czech word taken from Zisca's organization of the Hussite hosts in Bohemia long before. Grapeshot was also invented; but solid shot was the projectile of Artillery down to the introduction of General Shrapnel's shell in the British Artillery about 1810, followed much later by the universal adoption of shell fire for field guns. Another invention, Congreve's rocket, was partially adopted in the English service before the battle of Waterloo.

In the middle of the eighteenth century Frederick the Great made considerable progress in Artillery organization, although the material was unchanged. He increased the number of guns till he had 5 or 6 to every 1,000 Infantry, which is to-day the proportion thought desirable. In 1759 he formed a light Battery with gunners mounted, so as to keep up with Cavalry. This Horse Artillery was eventually adopted by the Austrians in 1783, and by the French and British in the Revolutionary Wars. Frederick abolished Battalion Guns, and grouped them in permanent Batteries, the germ of modern *Field Batteries*, although drivers were not mounted, or made into soldiers, till near the end of the century. The heavier guns were still dragged by horses in single file, led by civilian drivers on foot, and were called "Guns of position." They were generally formed in four masses—centre, wings, and reserve. After the Seven Years' War these guns were everywhere formed into *Batteries* of uniform calibre, which in

France were called *Divisions*, and manned by one Company of the Artillery Regiment. The teams began to be harnessed in pairs, with the drivers mounted on the near horse. The modern battery system was thus introduced, and may be said to have been adopted in every army towards the end of the eighteenth century, when battalion guns were abolished. Batteries began to be brigaded by threes or fours during the early part of the nineteenth century.

In England and France, about 1800, a corps of drivers for Artillery was formed, in which for the first time drivers had uniform and discipline; but these corps were abolished after 1820, and the drivers became an integral part of the Artillery.

In Austria and Prussia, Batteries were allotted to *Infantry Brigades*, a system which was kept up in Prussia till after Waterloo, and in Austria till after the war of 1866. In France, during the Revolutionary Wars, the Batteries were allotted to *Divisions*, in the way which still holds. There was always, in addition, a mass of guns styled the *Reserve Artillery*, which we find during the Napoleonic Wars, and down to the campaign of 1870. By that time it had been converted in the Prussian Army into *Corps Artillery*, an arrangement which all other armies have since copied. About 1900, however, the Corps Artillery was abolished in Germany, and its batteries distributed to the Divisions.

THE EVOLUTION OF THE ENGINEERS

The name and calling of the Engineer is traceable through English history in the existence of the King's *Engynour*, as mentioned at the commencement of this chapter. He had charge of what we now call Engineer Works, as well as of the Artillery. Both these Services were, up to the Stuart times, mainly connected with fortresses and sieges; but the first and the third King Edwards had with their field armies a corps of *Military Artificers*, and Henry VIII. formed a body of *Pioneers* for work in the field. These were artisans, either specially recruited, or taken from the ranks of the Infantry, as Pioneers still are. The body was commanded by a Captain of Pioneers, who was practically an Engineer Officer. He and his men formed part of the field force, and were Field Engineers.

From this time onwards, the Pioneers are identified with the field operations of an army, while individual Engineer Officers were attached to the Staff. The latter were formed into the Corps of Royal Engineers in 1772. This system, which differentiated between Pioneer men commanded by Engineer Officers, and individual Engineer Officers on the Staff, is exactly that which still exists in the German Army.

A Corps of Military Artificers was formed in 1770, and became the *Corps of Sappers and Miners* in 1780. It was constantly used in the field, especially in the sieges in the Peninsula and in the Crimea, after which it became merged with

the Engineer Officers into the Corps of Royal Engineers.

The developments of science applied to war, such as railways, telegraphs, and balloons, the importance of mobility for modern armies, which entails much road-making and bridging work, and the increased demand for field works in the attack, as well as on the defensive, have greatly increased the demand for Engineers with Forces in the field.

It may be pointed out that the Military Engineer existed for centuries before the *civil engineer*, who is a nineteenth-century offshoot of his military colleague, named after him, and not vice versa, as is sometimes imagined. The *civil engineer* was so called because, like the Engineer, he dealt with tools, machinery, and works, but only for civil purposes.

CHAPTER XIX

ORGANIZATION IN THE SEVENTEENTH AND EIGHTEENTH CENTURIES

THE "NEW MODEL" ARMY

THE Swedish Army under Gustavus proved so effective and successful in the 'Thirty Years' War that it became the model for the organization common to all armies during the seventeenth century, which may be well studied by British soldiers in the "New Model" Army, raised in the Civil War on Cromwell's suggestion. This army, perhaps the best disciplined and most effective the world has ever seen since Roman times, was never beaten during its many campaigns. The "New Model" is the true ancestor of the British Army, which has proved itself not unworthy of its descent. We still wear the red coat common in Cromwell's army, and have its organization and military terms in use to-day. Marlborough's army was practically the same as the New Model Army, only with bayonets for pikes, and flint locks for match locks.

The New Model Army was organized much like

the armies of Maurice and Gustavus. It was composed as follows :

The Horse were formed in 11 Regiments of 600 men each, with 6 Troops. The Foot were in 12 Regiments of 1,200 men, each with 10 Companies. The Dragoons, which were practically Mounted Infantry, formed one Regiment of 1,000, in 10 Companies. Regiments had been formed in England after 1618. The Colonel had a Company of his own, and, as he could not command it himself as well as the Regiment, it was commanded by the Lieutenant, who was therefore styled *Lieutenant of the Colonel*, or Lieutenant-Colonel. That officer's connection with the Commanding Officer caused him to be of such importance that his position was that of Second-in-Command of the Regiment, and he eventually became the Commanding Officer, as he is to-day. In the Horse, the Colonel had, similarly, a Troop, which was commanded by the Lieutenant, who ranked as Junior Captain, and was called *Captain-Lieutenant*. Horse Regiments had thus no Lieutenant-Colonel, and Cavalry Regiments have no Second-in-Command in any army to-day.

All Regiments had a *Major* (originally the *Sergeant-Major*), whose duties were those of our Adjutant. The latter officer was introduced after the Restoration in 1660, to perform the duties of the Major, who had become Second-in-Command, owing to the Lieutenant-Colonel having become Commanding Officer. Like the Colonel, the Lieutenant-Colonel and Major had each a Company of their own to provide their emolu-

ments, and these were stronger than those of ordinary Captains, so as to bring in more pay to the senior officers.

Each Regiment had a *Provost-Marshal* to enforce discipline, a *Surgeon*, and a *Chaplain*, and Infantry had a *Quarter-Master* and a *Drum-Major*.

The Troops of Cavalry had four Officers—*Captain*, *Lieutenant*, *Cornet*, *Quarter-Master*—and three *Corporals* and three *Trumpeters*. There were no Sergeants of Horse, so that even to-day in the Household Cavalry the word Corporal-Major is used instead of Sergeant-Major.

The Infantry Companies had three Officers—*Captain*, *Lieutenant*, *Ensign*—and two *Sergeants*, three *Corporals*, a *Quarter-Master-Sergeant*, and two *Drummers*.

The Artillery was at this time of little account. The lighter guns—3- to 6-pounders—were attached in pairs to each Regiment, like our Machine Guns to-day. This practice survived during the eighteenth century. The heavier guns—9- to 12-pounders—with a few larger ones up to 20-pounders, were drawn by teams of horses or oxen, driven by civilians on foot. They formed, with the wagons carrying ammunition both for guns and match locks, the *Train*, controlled by the *Waggon-Master-General*. Each gun was served by a *Master Gunner* and two *Under-Cannoneers*, while the train was managed by *Waggon-Masters*, assisted by *Furriers* (French *Fouriers*) and clerks, and a number of artificers of all sorts.

The Head-Quarters of the Army consisted of a *General* as C.-in-C., with a Second-in-Command, naturally called the *Lieutenant-General*, who commanded the principal Arm—the Cavalry. There was a *Sergeant-Major-General* who commanded the Infantry, and was, as his name implies, the Chief Staff Officer of the Commander-in-Chief, as the Sergeant-Major was the Staff Officer of the Colonel of a Regiment. In these titles the Sergeant has long been dropped, and the (*Sergeant*) *Major-General* is still, as in the “New Model,” the junior rank of General Officer. A *Master-General of the Ordnance* controlled the Artillery, Engineers, and Train.

The two Generals of Horse and Foot had each a Staff, consisting of an *Adjutant-General* and a *Quarter-Master-General*. Under the *Master of the Ordnance* there were a *Comptroller of the Ordnance*, and an *Engineer-General* with several assistant Engineers, but no men.

The list of Administrative Officers on the Head Quarters Staff is interesting, as showing the antiquity of many of our military titles :

The Judge-Advocate-General.

Two Provost-Marshal-General—one for the Horse, one for the Foot.

The Commissary-General of Victuals.

The Commissary-General of Horse Provisions.

The Waggon-Master-General, in charge of Train and baggage.

Medical Officers.

The Chaplain to the Army.

Two Treasurers-at-War (or Paymasters).

The Muster-Master-General.

The Scout-Master-General, who was what we should call the Chief Intelligence Officer ; he had two Assistants and twenty Scouts.

THE ARMIES OF THE EIGHTEENTH CENTURY

Throughout the greater part of the eighteenth century the Armies of Europe much resembled those of the seventeenth, of which the "New Model," just described, is an example. They were formed of a number of Regiments of Cavalry, and separate Battalions, or at most Brigades, of Infantry, accompanied by a long train of guns and motley wagons carrying food and baggage. These were drawn by teams of oxen and horses hired in the country, driven by wagoners on foot.

There was no grouping of the units of the army into larger organizations, except on the battlefield, when fractions of the battle array were sometimes temporarily placed under a named Commander. The whole army marched, camped, and fought as one body, covering but little ground compared with the armies of to-day, owing to its smaller numbers. It was thus always under the eye of the Commander, whether on the march, in camp, or in battle.

The march columns were shortened, when possible, by moving the Infantry in column of sections down the broader roads, or even in battalion column across the open fields alongside. At night, to prevent desertion and marauding, billets were

never used, and bivouacs seldom, but the army lay concentrated in a formal camp in order of battle, so that it could, without delay, form up in front of the camp ready for the combat.

In battle, the disposition of the army was in two lines of Infantry, among which some of the lighter guns were dispersed in pairs, while the heavier ones were massed on the wings and at the centre. The Cavalry were on each flank. The wagon train was parked in rear under a strong escort for its protection against marauding cavalry. The marshalling of the army in due precedence of each unit, and placing the army in correct position without overlapping or crooked lines, was a delicate process, which would often take hours to perform.

Whether in camp, or in battle, each of the Regiments was separate and unconnected, and each received its Orders direct from the Commander, who himself personally watched their execution. He thus *commanded* in the strictest sense, and needed little assistance from his Staff Officers, who were chiefly used to gallop to the troops with his Orders.

The above gives a picture of the earliest regular armies in Europe, such as those commanded by Gustavus Adolphus, Turenne, Marlborough, and Frederick the Great. The latter, however, introduced, during his long wars, several improvements in his army, which became, during the Seven Years' War, the model of Europe owing to its extraordinary success, opposed though it was to the larger but inferior armies of Austria, Russia, and

France. Some of the details of Frederick's organization have been mentioned in previous pages dealing with each Arm.

Frederick himself generally acted against the two first-mentioned enemies, and detached a very able General, Ferdinand of Brunswick, to oppose the French. Ferdinand had under his command an allied force, formed of small separate armies of all Arms, provided by Prussia, Britain, Holland, Brunswick, and Hesse. These remained under their own Commanders, and were virtually what were later known as *Divisions*.

In Frederick's army the only trace of higher organization is found in his dividing the whole for battle into two Wings and a body of Cavalry, and allotting separate Commanders to each portion. In this, we perhaps find the germ of the Army Corps system adopted in the next century.

UNIFORM

Uniform, or clothing of a uniform pattern, was not customary till the middle of the seventeenth century. It had been seen in the red coats of selected troops which Henry VIII. brought in ; but the historic red coat was first given to the whole army by Cromwell, and continued after the Restoration. Uniform was brought in by Louis XIV. later, and its use spread everywhere. Gustavus had distinguished his Brigades by coloured scarves. The English, fighting for Protestantism in aid of the Netherlands against Spain, wore Orange and Blue scarves, whence perhaps the

adoption of one or other of these colours to represent the Whig in English politics in the eighteenth century. Cromwell's army wore an Orange scarf, whence no doubt came the hue of Protestant Ireland, which was to a great extent settled by his parliamentary soldiers.

MILITARY MUSIC

Music had long been used by soldiers, and was encouraged by Henry VIII. ; but marching in step to fife and drum was invented by the Swiss in the fourteenth century, copied in the fifteenth by the Landsknechts, and from them adopted in all armies. It is interesting to note that the roll on the drum always heard before the band begins a march is the old Landsknechts' drum march.

FLAGS OR COLOURS

Flags were probably derived from the Knights' Banner. They were used as Standards by the Swiss, from whom the Reiters and Landsknechts copied the custom, which was then universally adopted. Their varied hues caused them to be styled *Colours* in England during the reign of Elizabeth. The flag was used not only to distinguish the combatant sides, but also the different regiments, and the men were taught to close and rally to it, and to associate with it ideals of duty and self-sacrifice which still cling to the Colours to-day.

The flag was carried on a time-honoured system which became an art. The various ways of waving

and folding it were originally signals for movements which the musicians looked to for guidance, so that the flag-bearer in a sense led the music. The traditions and coquetries of this art were gradually lost, and only survive in the pride of the drum-major in the play of his staff, as he leads the drums at the head of the regiment.

CHAPTER XX

ORGANIZATION IN THE NINETEENTH CENTURY

ORGANIZATION IN THE WARS FOLLOWING THE FRENCH REVOLUTION

AT the close of the eighteenth century, during the wars brought on by the French Revolution, a great change in organization took place. France, with her old army shattered by the Revolution, was suddenly obliged to raise enormous numbers of troops to defend herself against the onslaught of Europe. When, with unparalleled courage and energy, she had stemmed the flood of invasion, a number of French armies at once took the offensive, and carried the war beyond her frontiers in every direction for the next twenty years.

DIVISIONS

The size of the armies, and the area covered by them, made it impossible for the Commander to exercise personal control over his whole force, especially as the absence of a system of supply entailed wide dispersion for subsistence on the country invaded. It became necessary to appoint independent Generals to command the scattered

fractions of the Army, often operating at a distance from each other. This arrangement was instituted by Carnot in the early wars of the Revolution.

It thus came about that the Army was *divided* into separate portions, which were naturally termed its *Divisions*, a designation which was retained when they became permanent organizations, and exists in all armies to this day.

These *Divisions* consisted mainly of Infantry, but some Light Cavalry and Artillery were attached to them, so as to make them capable of the independent action demanded by the increased extent of the theatre of war and of the battle-fields.

The Division comprised generally 12 Battalions of Infantry, 4 to 8 Squadrons, and 8 to 12 guns, with the necessary administrative services, making a total of some 10,000 to 12,000 in all, under command of a General Officer.

The Infantry was formed in what were termed *Demi-Brigades* of 3 Battalions, which reverted to the name of *Regiments* in 1803. These comprised one Battalion of regulars from the old Royal Army, and two of Volunteers. Each Battalion had 9 Companies, each about 120 strong; one being of Grenadiers, and two of Light Infantry. The Battalions were numbered, their old army name being dropped. The Cavalry Regiments were of 4 Squadrons, each 150 to 200 strong. The practice of living on the country allowed the transport train to be greatly reduced, especially as tents were discarded, and the troops always bivouacked, when not billeted. Company officers were allowed no

bât animals for their baggage. By these measures the mobility of the army was greatly increased.

This divisional organization was adopted by Austria in 1805, by Prussia in 1806, and by Russia in 1807; we find it in the British Army in the Peninsula in 1808, when the Divisions were formed of 2 Brigades of 3 or 4 Battalions each, with 1 or 2 Batteries, and often a Rifle Battalion.

CORPS D'ARMÉE (ARMY CORPS)

The power of independent action thus conferred on these Divisions, which were in fact miniature armies, led to a want of concert in their movements, and of co-ordination in their action, while at the same time, as Armies increased in size, the number of Divisions became too great for the Commander-in-Chief to control properly.

An attempt to remedy these drawbacks was made in 1800 by Moreau, when planning his invasion of South Germany. He grouped his Divisions into two Wings and a Centre, which he placed under three senior Generals, while retaining a Reserve of four Divisions in his own hand. Each Division was either 5,000 or 10,000 strong, and 3 or 4 of them, with 6 guns per 5,000 men, and a Cavalry Division of 2,000 or 3,000, formed virtually a Corps d'Armée, 20,000 to 30,000 strong.

Bonaparte, when First Consul, grasping the desirability of this arrangement for large armies, introduced a permanent organization by Corps d'Armée.

In this manner was organized the army assembled at Boulogne, in 1804, for the invasion of

England. This formed the famous "Grande Armée," which overcame Austria, Prussia, and Russia in three great wars during the succeeding three years, and formed the model of organization for the later armies of France, and eventually for those of all the great Powers of Europe.

The Napoleonic Army Corps was commanded by a Lieutenant-General or a Marshal. Its size depended on the capacity of its Commander, and varied from 2 to 4 Divisions, each of 2 or 3 Brigades of 2 Regiments of 3 Battalions. A Battalion had 6 Companies, or sometimes 9, and was 700 to 1,000 strong. A Cavalry Regiment had 4 or 5 Squadrons, of 150 to 200 men.

DETAILS OF NAPOLEON'S ORGANIZATION

In 1805, light companies, or *Voltigeurs*, were added to Battalions for skirmishing duties, thus relieving the Grenadier Companies from this work. Napoléon then detached the latter from their Battalions to form a *Grenadier Corps* as an Army Reserve, to which all the Voltigeur companies were afterwards added.

In 1808, in the first French army sent to Spain, the Brigades were of 2 or sometimes 3 Regiments, or 6,000 to 10,000 strong. The Companies had become increased up to 140 men, but their number was only six when the Grenadier and the two Voltigeur Companies had been detached.

The Cavalry not allotted to Divisions of Infantry was formed into Divisions of 2 or 3 Brigades, those of Light Cavalry being attached to Army Corps, while the Heavy Cavalry Divisions formed the

Cavalry Reserve. This was practically a Cavalry Corps of 4 Divisions, with 2 Batteries of Horse Artillery, or 20,000 in all. Its function was to enable Napoleon to influence the battle by the decisive effect of an overwhelming mass of Cavalry, as well as to furnish a body of Cavalry under one command for action well to the front of the Army during its advance—in fact, to perform the duty of Independent Cavalry of to-day.

The Artillery not allotted to Army Corps was similarly formed into one body called the *Reserve Artillery*, under Napoleon's own Orders. This was used in one mass against the centre of the enemy's line, where Napoleon intended to launch his main attack.

He invariably kept the Reserve Army Corps, as well as the Cavalry and Artillery Reserve, in his own hands, for decisive action at the crucial moment of the battle.

These Army Corps were soon imitated by Prussia after 1806, by Austria before 1809, and by Russia by 1812, and became the permanent organization of the first two nations down to this day ; but it was not definitely adopted by Russia until the close of the nineteenth century. In the Civil War in the United States both sides adopted Army Corps, which the size of their armies rendered desirable.

STRENGTH OF ARMY CORPS

The strength of Napoleon's Army Corps was very variable. In the Grande Armée it was at first

2 or 3 Divisions of 2 or 3 Brigades, with 1 Cavalry Division, or from 19,000 to 30,000 in all. The Cavalry Corps was of 20,000 with 2 Horse Artillery Batteries.

In later campaigns the Army Corps grew larger, and their strength varied with the quality of their Commander.

In 1809 they were of 30,000 to 40,000 men, and one was of 4 Divisions with 60,000. In 1812 the French Corps varied from 30,000 to 70,000, the largest having 5 Divisions; but the Corps of the foreign allies were less than 25,000 strong. There were four Cavalry Corps, each of 28 Squadrons of Light Cavalry, 16 of Cuirassiers, and 16 of Dragoons. In 1813 the French Corps varied from 20,000 to 50,000, and the Cavalry Corps from 10,000 to 16,000. In 1815 the Corps were from 16,000 to 24,000 strong, and the Cavalry Corps was in 4 Divisions. Throughout these campaigns most of the Army Corps had a Cavalry Division attached to them.

Since Napoleon's time the organization of the French Army has been on similar lines.

. In the war with Austria in 1859 the Army Corps had 2 Divisions, each of 2 Brigades, or 18 to 20 Battalions, with 40 to 56 guns.

In 1870 the Army Corps were of 3 Divisions with a Light Cavalry Division of 2 Brigades. Those commanded by a Marshal had 4 Divisions and a Cavalry Division of 4 Brigades. The Artillery with each Division consisted of 3 Field Batteries and 1 of Mitrailleuses; the Corps Artillery of 5 Batteries. As in Napoleon's

armies, there were Reserve Divisions of Heavy Cavalry, comprising 2 Brigades of 2 Regiments, with 2 Batteries of Horse Artillery. One evil of this organization was that the Light Cavalry Divisions kept close to their Army Corps, and the distant reconnoitring for the whole army fell to the Reserve Heavy Divisions, which were unsuited to this duty, and were often kept actually in reserve.

PRUSSIAN ORGANIZATION IN THE NINETEENTH CENTURY

The Divisional organization was introduced just before the campaign of Jena in 1806, when the Division had 10 to 12 Battalions, 15 Squadrons, and 24 to 30 guns. By 1813, in the War of Liberation, Army Corps of 4 Brigades had replaced the Division. The Brigade was a mixed one of all Arms, and comprised 2 Regiments, or 6 Battalions, and 1 Battalion of Grenadiers formed by massing the Grenadier Companies of the Battalions. There were allotted to the Brigades 3 Regiments of Cavalry and 2 Batteries of 8 guns each.

In 1815, in the Waterloo campaign, we find a similar organization, but the Brigades were of 3 Regiments, and dearth of Cavalry and Artillery only allowed 2 Squadrons, and 1 Battery of 8 guns, for each Brigade.

The mistake of the Prussian organization in the Napoleonic Wars was that the whole of the Cavalry and Artillery were split up among the Brigades, and there was no body of either to

oppose the massed Horse and guns of Napoleon's Reserve, which he threw into action at the crucial moment with overpowering effect. This error was corrected, and after Waterloo the Army Corps comprised 3 Divisions which represented the old Brigades, and a Cavalry Division of 2 Brigades of 2 Regiments each, with 2 Horse Artillery Batteries. In 1853 the Army Corps was organized in its modern shape in 2 Divisions, of 2 Brigades, of 2 Regiments, with 1 Cavalry Regiment ; but it had only 4 Batteries, or 32 guns, with each Division, and no Corps Artillery.

In 1860 the Field Batteries, which had until then 8 guns, were reduced to their present strength of 6 guns.

The experience gained in 1866 caused considerable modification in organization to be made before the war of 1870 broke out. The Reserve Artillery was abolished, and divided among the Army Corps, thus forming "Corps Artillery" of 7 Batteries. The 5th Squadron of Cavalry was made into a dépôt, and Regiments took the field in 1870 with 4 Squadrons only, as at present. The Reserve Cavalry was abolished, and Cavalry Divisions formed. These were attached, not to Army Corps as in France, but to Armies, being intended for reconnaissance far to the front.

Of recent years the Corps Artillery has been abolished, and the Batteries comprising it are distributed among the two Divisions, so as to increase the co-operation of the Artillery with the Infantry.

PROPORTIONS OF THE ARMS

CAVALRY AND INFANTRY

In the sixteenth century the Horse outnumbered the Foot, but in the Thirty Years' War they were roughly equal. In the English Civil War, and later in the seventeenth century, the Infantry began to outnumber the Cavalry, and in the eighteenth century the proportion of Foot to Horse rose, till it was in the proportion of 3, or even 4 to 1, and in the Napoleonic Wars, of 6 or 8 to 1.

In the nineteenth century, when armies became much larger, the proportion of Infantry to Cavalry increased still more, owing to the expense of the latter Arm, and the longer training it needed, till in 1870 it was 10 to 1 in the French Army, and 13 to 1 in the German. It is still 13 to 1 in the German Army, but only 16 to 1 in the French.

GUNS AND INFANTRY

The number of guns was small till the close of the seventeenth century ; in the armies of Maurice it was 1 gun to 1,000 Infantry, a proportion which Gustavus raised considerably. In Marlborough's army it was over 3 per 1,000. The number of guns to 1,000 Infantry rose during the eighteenth century, till it became 4 or even 5 in the later armies of Frederick the Great ; but it was only 3 or 4 in the larger armies of the Napoleonic Wars. In 1866 there were 6 guns per 1,000 Infantry in the

Austrian Army, and 5 in the Prussian ; in 1870, 3 to 4 guns in the German Army, and 3 in the French. There are at present 6 guns per 1,000 Infantry in the German Army, and slightly more in the British, but rather less in the other armies.

CHAPTER XXI

THE EVOLUTION OF THE STAFF AND ADMINISTRATIVE SERVICES

1. THE STAFF

THE origin of the Staff must be looked for in the earliest European organization, that of the Reiters and Landsknechts in Germany about A.D. 1500, and in the armies of Maurice and Gustavus modelled on them. This organization was copied in England, France, Prussia, and other military nations, and survives in essentials to this day.

We find in the sixteenth century that the fighting officers of the troop or company left the drill to the Sergeant, an officer of experience in handling troops, and a most important personage in the unit. In action, while the other officers were in front, fighting, the Sergeant was in rear correcting the men's movements, and giving orders. In the Infantry he had to run up and down the ranks for this purpose, and was therefore not armed with the long pike, which would hamper him. The Sergeant therefore either retained the halberd when Infantry gave it up for the pike, or was armed with a half-pike. These arms long survived in the British

Army, where sergeants carried a halberd down to 1829, and the subalterns a half-pike or "spontoön," down to 1786.

Similar duties to those of the Sergeant in the Company were performed in the Regiment by the Sergeant-Major, who supervised the drilling of the Companies by the Sergeants, regulated the march of the Regiment and its manœuvres in battle, and was therefore charged with the issue of orders. He was thus virtually a Staff Officer to the Colonel. Similarly, in an army, the Commander required an officer of experience to draw up the army in line of battle, a difficult task, and a delicate one, as the precedence of each corps had to be respected. This officer was called the Sergeant-Major-General, as he filled for the Army the same functions as the Sergeant-Major for the Regiment. He was the Staff Officer of the Army, responsible for planning the battle manœuvres, regulating marches, arranging for the quartering of the troops, and necessarily, therefore, for issuing the orders dealing with these matters. The word *Sergeant* was soon dropped from both these titles. The *Sergeant-Major* became the *Major* of the Regiment, with the duties of the modern *Adjutant*, and the *Sergeant-Major-General* became the *Major-General* of the Army.

We thus find in the sixteenth century that the Staff work of the Army was performed by the officer known in France as *le Major-Général des Logis*, or *Major-General of Quarters*, as the allotment of quarters was one of his chief duties. It may be mentioned that the old word for Staff

duties was *Logistics*, formed from the word *Logis*, and meant the duties of the Major-Général des Logis. This title was then shortened to *le Major-Général*, by which name the chief Staff officer of the Army has been always called in France down to this day.

The full word was translated *Quartier-Meister-General* in German, or *Quarter-Master-General* in English, and this Staff Officer was charged with the Staff duties of the Sergeant-Major-General—namely: Orders, Drill, Manœuvres, Quarters. But the necessity of preceding the army to allot quarters for it entails deciding which road the army is to march by, so the duty of reconnoitring the roads, and thus that of reconnaissance generally, was added to the list of the duties of the Q.M.G. We thus find, in the eighteenth century, that what are now the duties of the General Staff were allotted to the *Quarter-Master-General* in the British and Prussian Services, and to the *Major-Général* in the French.

These duties continued to be performed by the Q.M.G. Staff in England, down to a few years ago. In Prussia the Q.M.G. was the second officer to Moltke on the General Staff in the war of 1870, and the appointment was only abolished in 1888.

At the close of the seventeenth century another Staff Officer was established at Head-Quarters by the name of Adjutant-General, who was charged with all questions relating to personnel, and with routine duties, as distinguished from those connected with movement, quartering, and fighting, which were the duties of the Q.M.G. The A.G.'s Staff

is in all armies charged to-day with the same duties as in the eighteenth century.

There were generally attached to the Staff some Engineer Officers, who were charged with map-making for military purposes. The maps of European countries are therefore known as Staff Maps, while that of Great Britain is called the *Ordnance Survey*, because made by the Royal Engineers, a Corps under the "Master-General of the Ordnance."

The General Staff was created in Prussia in 1815, in consequence of the experience gained in the Napoleonic Wars. The then Q.M.G. Staff was transformed into the General Staff, and placed under the direct orders of the King. Some of the General Staff Officers were attached to Army Corps and Brigades (there were not yet any Divisions), and the rest formed the Great General Staff at Berlin. There has been but little change in this organization of the Prussian General Staff, which, it may be noted, acts for the whole military forces of the German Empire, for there is no *German* General Staff in the sense in which there is a *German* navy.

All armies have now copied the Prussian General Staff system, with modifications, but it is an error to suppose that the General Staff duties were not performed before the Prussians so styled them. We have seen that they were carried out by the Q.M.G. Staff. In the small armies commanded by Frederick and Wellington, and by Napoleon at the outset of his career, these great Generals were virtually their own Chief of the General Staff.

They wrote or dictated detailed orders, worked out movements on the map, and perused states and returns. Frederick himself gave orders for marching, pitching camp, and fighting, sent them out by his orderly officers, and watched their execution personally.

As Napoleon's armies increased in size, the General Staff duties became very heavy, and were carried out most ably by Berthier, his "Major-Général," or Chief of the Staff. Their nature is stated in quite modern shape by the great Swiss Military writer Jomini, who had himself been Chief of the Staff to Ney in 1805, as well as to the Russian Army in 1813, after his desertion from the French. (See "L'Art de la Guerre," Vol. ii., chap. vi., par. 41.)

The Head-Quarters Staff in Napoleon's great wars was organized in the following manner : *

The Staff was divided into five branches :

1. Personal Staff of Napoleon.
 2. Personal Staff of the Chief of Staff.
 3. The Staff proper.
 4. Officers "at disposal," generally away on special missions.
 5. Topographical Bureau, comprising a dozen officers employed in mapping.
1. Napoleon's Personal Staff consisted of :
 - (a) The Civil Secretariat.
 - (b) The Military Secretariat, which had charge of the Map, and took down Napoleon's dictated Orders.
 - (c) Several Generals, Aides de Camp to the Emperor, available for special missions.
 - (d) Orderly Officers to carry Orders.
 - (e) Equerries.
 2. Berthier's Staff comprised :
 - (a) The Civil Secretariat.
 - (b) The Military Secretariat.
 - (c) A dozen Aides de Camp.

Berthier's duty was to embody Napoleon's instructions in Orders, and transmit them.

3. The Staff proper, which comprised a score of officers, and was divided into three branches :

- (a) Correspondence, orders, movements, states, intelligence.
- (b) Camps, billets, police, subsistence, hospitals.
- (c) Laws, decrees, conscription, prisoners.

* These particulars are taken from an article in the *Times* by the Military Correspondent of that newspaper.

THE EVOLUTION OF THE STAFF 231

UNITED STATES STAFF IN THE CIVIL WAR

An example of organization of a Head-Quarters Staff in a great war may be found in the Civil War, in the United States. When General Grant was Commander-in-Chief, his Staff consisted of nineteen Officers :

Chief of Staff	1
A.G. Department	3
Q.M.G. Department	4
Provost-Marshals	2
Military Secretaries	2
A.D.C.'s	7

PRUSSIAN STAFF IN 1870

It may be interesting to see how the Prussian Head-Quarters Staff was organized for the strategical conduct of the War of 1870.

At the head was Moltke, the "Chief of the General Staff" in peace and war, who really directed the operations, although nominally only the adviser of the King of Prussia, the Supreme Commander.

Moltke was assisted, and replaced when absent, by the Q.M.G., who acted as Chief of the Office.

The General Staff under Moltke consisted of twelve officers, and was organized in three Sections as follows :

1. Operations.
2. Railways and Communications.
3. Intelligence.

Each Section was under a Colonel, the "Chief of the Section," with one Field Officer and two Captains as his assistants.

The Commissary-General of Supplies, and the Director of Military Telegraphs were also attached to the Staff.

Each *Army* had the following Staff, comprising six to nine General Staff Officers :

One Chief of General Staff.

One Chief Q.M.G.

One to two Field Officers.

Three to five other Officers.

2. THE SUPPLY AND TRANSPORT SERVICES

The early forces in Europe subsisted merely by individual plunder, each man obtaining his food and forage as he could. Later, the central power provided certain places where supplies were collected by force. The next step in supplying armies was taken when it was found that the local resources could be drawn on to furnish supplies on payment. This provided a more certain and effective supply, and demanded fewer troops to be employed in collecting. This change had a far-reaching result. The fact that cash had to be paid for these purchases caused Supply to come under the Civil Finance Department. Hence we find in Cromwell's army this Service controlled by the Treasury, as it continued to be down to the Crimean War, with ill results for the army.

Transport was required to carry the supplies from the districts whence they were collected

to the area occupied by the troops, where they were stored in magazines. The next step, therefore, was to increase the mobility of the army by providing additional Transport to move supplies from these magazines up to the fighting troops.

The train which carried supplies was, during the sixteenth and seventeenth centuries, a mass of hired or pressed country carts and wagons, driven by wagoners on foot, and difficult to manage or move near the enemy. It was found that, unless organized under military control, the transport was not very efficient, and by the epoch of Napoleon both the Transport and the Supply Services had become more and more military in organization. But they were both still *Civil Services*, owing to the hold the Treasury had over them, from the fact that both entailed constant expenditure during war.

During the nineteenth century the *Train* which provided transport became in all armies a Military Organization, with enlisted drivers under regular officers; while Supply continued to be organized as a Department under Civil officials, as it still is abroad. This system tends to produce difficulties, as the Combatant Military Train Officers have to move Supplies under the instructions of the Civil Supply Officials, and in foreign armies it is found difficult in war to make both work in co-operation. The tendency is, in fact, to bring about the close union between these two Services, long since found desirable in England. In all armies there are *Transport and Supply Columns* formed from the Train with the

addition of Supply personnel. In England alone are both provided from one Corps, the *Army Service Corps*, and the description of the British Transport and Supply Services given in Part II. illustrates what is perhaps the best organization of these Services for war.

3. THE MEDICAL ORGANIZATION FOR WAR

In the Middle Ages there was no medical organization with armies, nor were there even any surgeons. The sick and wounded were left to shift for themselves, and were tended, if at all, by private persons out of charity, or in monasteries, for the monks alone possessed any knowledge of surgery and medicine in those days.

Rudimentary provision for surgery in armies is found in the organization of the German mercenaries of the sixteenth century, where a surgeon was appointed by each Captain for his Troop of Reiters or Company of Landsknechts. Later, a Surgeon was attached to the Regiment, and medical care, from being purely a matter for the Captain to organize, became a Regimental responsibility. By this time the practice of surgery had long passed from the hands of monks into those of the barbers. Thus in the seventeenth century the Prussians had *Feldschere*, *Field Barbers*, attached to Companies and Regiments for surgical duties. There also began to be during the sixteenth century a certain number of what we should call *Staff Surgeons*, attached to the Higher Commands, who were supposed to supervise the *Regimental Surgeons*. The latter gradually became better

educated, while the *Company Surgeons* under their supervision remained merely rude subordinates.

During the seventeenth century the sick and wounded were treated in tents pitched in the rear of the camp as long as the army was stationary, and tended by some of the women who accompanied it. When it moved, they were handed over to local authorities, or left in the villages near the fighting. An effort was then made in most countries to establish hospitals in the chief towns in the theatre of war, into which the wounded could be collected for better tending. By the eighteenth century Army Surgeons were allotted to these hospitals, which seem first to have been organized in France, where, however, they were managed by contractors. The abuses of this system led to the hospitals being placed under the Intendants of the Army, a change which effected little improvement, as the Intendants, through ignorance and apathy, hampered the action of the medical department, and delayed any improvement in it. France was the first country to organize any sort of mobile hospital, the germ of our *field ambulance*. One ambulance wagon was provided per 1,000 men, and in battle, dressing stations were formed in rear, to which wounded found their way, or were carried on stretchers. Stationary hospitals were also established in rear, and the modern system of evacuation of wounded to the rear was rudely organized. The same idea was started in Austria, and, in a less developed form, in Germany.

During the eighteenth century we find an or-

ganization of Regimental Surgeons, with attendants and stretcher bearers, and a provision of field equipment carried in wagons. Thus units corresponding to Field Ambulances were gradually organized in the armies of France, Austria, and Prussia. There were larger organizations of the same nature at Head-Quarters of the Armies, and of the Higher Commands when these were introduced in France during the Napoleonic Wars. These Field Ambulances had ambulance wagons, and other wagons carrying the dispensary and kitchen, and the necessary equipment, stores, and supplies, and were manned by a Corps of Hospital Orderlies and Stretcher Bearers. In rear of these units were stationary hospitals under military control. The Austrian organization was nearly as good as in France, but that of Prussia and other States lagged considerably behind them. In fact the Prussian troops had no medical organization, beyond the provision of regimental surgeons, at Jena, nor at Eylau, nor even at Waterloo.

It was not till during the nineteenth century that modern Medical Organization gradually evolved into its present highly developed condition in all civilized armies. This can be studied in the description of the British Medical Service (Chapter X.), which is nearly identical with that of Germany, and may be considered to represent a high type of Medical Organization for War.

PART V

MILITARY COMMAND

CHAPTER XXII

PRINCIPLES OF COMMAND

THIS work will now conclude with some remarks on the nature of Military Command, the methods by which it is exercised, and the psychological characteristics of soldiers and their leaders. The final chapter is devoted to the last subject, a matter worth deeper consideration in connection with Command than it has yet received. When it is remembered that, as stated in the first chapter, it is the main object of Organization to facilitate Command, the reason for touching on these subjects in this work will be obvious.

MODE OF EXERCISING COMMAND

Supreme Command in war is either exercised by the Sovereign or by a Commander-in-Chief who acts as his deputy, or, in a Republic or Constitutional State, as agent of the Government. In either case, on him the authority of the State is devolved as regards the operations of the war.

Governments have not always been wise in their control of the Military Commander or in their direction of operations. Glaring instances may

be found in history, notably in the conduct of war by the younger Pitt, by the Aulic Council in Vienna, and by Abraham Lincoln.

On the other hand, the correct principles on which a Government should control its Commanders in war are exemplified in the highest degree in those of the elder Pitt, afterwards Lord Chatham. To his wisdom and judgment in conducting operations by sea and land over all the world must be credited much of the brilliant success of the Seven Years' War.

He himself defined the object of the operations, but left the method of attaining it to his Commanders, to whom he allowed a large measure of latitude and discretion. He never failed to make use of every incentive which could spur them to action and ensure success. He insisted on the initiative being taken, and risks run, but he was always as generous in case of failure as he was appreciative of good work. He succeeded in inspiring the Admiralty and the War Office with his own spirit and energy, and seconded their efforts with all the resources of the country. The lesson which his practice may teach every Government engaged in war is, that while the Statesmen alone can direct all the Departments of State, and combine Navy, Army, Diplomacy, and Finance to the common end, those responsible for the actual operations must be unfettered in their decisions, and in their method of carrying them out.

Command has in the large armies of the present day become rather a *Direction of Operations*, dif-

fering essentially in character and execution from the actual *Command of the Troops*. Frederick, Napoleon, and Wellington *commanded*; Moltke and Oyama *directed* their armies; while it was mainly the Prussian and Japanese Division Commanders who *commanded* in the true sense in the wars of 1866, 1870, and 1904. Thus we seldom see Moltke and Oyama on the battlefield, where Napoleon, Wellington, and Lee were always to be found.

The Subordinate Commander, like the Commander-in-Chief of old times, differs from the Supreme Commander of to-day by the fact that his action on his Command is personal and direct. He is in close touch with his subordinate leaders, knows the condition and spirit of his men, is always among them in person to inspire and control their movements. Troops take their tone from their immediate Commander, and reflect his vigour or hesitation, his confidence or caution. An intuition of his mental attitude seems to pass through all ranks of the Command. On the other hand the Army Commanders, and still more the Commander-in-Chief, are but nebulous figures to the soldiers in a very large Army.

Military Command is exercised in three ways, which differ in character and scope. The Supreme and Army Commanders prescribe *Instructions* to their Subordinate Commanders; the latter issue *Orders*; Commanding Officers of Units give *Words of Command*. The latter method needs no comment. The former modes will now be discussed.

INSTRUCTIONS

The system of Command customary before the French Revolution survived well into the nineteenth century. By it there were issued to each tactical unit of the Army, Orders containing minute, and even pedantic, details for carrying out the plan decided on by the Supreme Command. These details were not only wearisome to peruse, and unnecessary for experienced subordinates, but the time spent in merely copying and distributing them was so great, that it had a most prejudicial effect on the rapidity of the movements of the army. This system may be said to have greatly contributed to the ill success of the Austrians in their many wars against Napoleon, owing to the slow and dilatory movements it entailed.

The dissemination of the French Armies of the Revolution led to the plan systematized later by Napoleon, of giving short and general Instructions, prescribing to each Subordinate only his own part in the dispositions, with, perhaps, some information about the position of adjoining bodies of troops. This system had a great effect on the success of the French forces, but it only won its way very gradually in other armies. It is that now universally adopted; but the modern practice differs in one respect from that of Napoleon, who seldom indicated the general object of the movements, no doubt in order to avoid the danger of its becoming known by the enemy. The tendency is now to look on the latter danger as less than the evil of imperfect co-operation. If subordinates do not

know the general situation, the object of the operations, and the position of the enemy, they will not always be able to act in accordance with the Commander's purpose. The size and dispersion of modern armies make the independence of subordinates far greater than in the days of Napoleon, and have led to the practice of giving them general information about the situation, so as to ensure their co-operation to the common end.

Instructions (German *Directiven*) have been defined by the German General Staff as "Communications to a subordinate Commander intended less to convey definite Orders for his immediate action than to indicate leading features for his general guidance, which should facilitate his judgment as to the subsequent decisions to be taken independently." *Instructions* therefore generally describe the situation, the operations decided on, and their object, but leave considerable latitude in the method of carrying out the general plan. The Subordinate Commanders are expected to act on their own judgment in furthering the Commander's purpose, observing the spirit rather than the letter of their Instructions. For, it should be noticed, military obedience in the higher ranks does not lie in literal conformity to Orders, but rather in a true conception of their spirit. Such obedience is quite compatible with the independence and self-confidence indispensable in the Subordinate Commander, who has to act on his own judgment in carrying out Orders. He must take on himself the responsibility of giving effect to his Instructions by acting in conformity with

the situation of the moment, which may be very different from the situation as it was when they were issued.

As regards the drafting of Instructions, it must be noted that the man who can make the best plans is not always the one to express them best. Napoleon's brilliant combinations were embodied in Instructions which were often involved in their sequence, and ill-balanced from the intrusion of details among the broad outlines of the general plan. They were also generally so terse that they were not always clear to any intelligence inferior to his own. Jomini speaks of their "laconisme outré," partly due to Napoleon's temperament, and partly a revolt against the minute verbiage of the Military Orders of his generation. Hence the importance of a good Chief of the Staff, who can act for his General as Berthier did for Napoleon. He need not be a genius nor even a great strategist, but he must be able to translate into lucid Orders plans which he could never have originated, or perhaps even, like Berthier, never fully understand or appreciate.

ORDERS

Subordinate Commanders, although they act with some independence on the Instructions they themselves receive, do not leave the same latitude to their own subordinates. They exercise Command by the issue of precise *Orders* for executing the idea in the manner they themselves have decided on. These Orders will contain the substance of the Instructions they have received, as far as it

may be desirable to pass on this information to their own subordinates. The method proposed to carry out the general plan will probably need explaining and developing in detail in the Orders. These will therefore prescribe the definite steps to be taken, such as the time and direction of marches and attacks, or the measures to be taken for security. Orders should *not*, as Instructions often *may*, provide for contingent possibilities. The issuer of an Order is generally on the spot, and can leave such contingencies to form the subject of further Orders. But unless a Commander can be present, and direct the operations himself, he must leave much latitude to those who have actually to lead the Troops. Without this, the operations will not always be the most suitable to the conditions of the moment, and the vigour which is the mainspring of successful action will suffer.

DIVISION COMMANDERS

During the war with France in 1870 the leading on the part of the Supreme and Army Commanders left much to be desired, but the way in which the German Subordinate Commanders worked together was very striking, and might well be imitated in other armies. Their co-operation was loyal, unhesitating, complete, and characterized by initiative and resolution. Holding similar views on fighting, and animated by the same energy, the German Commanders acted together to one common end—namely, to beat the enemy.

Subordinate Commanders require to possess

moral courage and readiness to take responsibility, rather than merely physical bravery, while decision and resolution are essential. There will be a solid foundation of confidence and moral force in an army whose Divisional Commanders are so endowed. All Commanders should be brought up in the same school, and hold similar views on the conduct of war. This is the basis of good Command, and ensures harmonious co-operation.

LIMITS OF INITIATIVE IN STAFF OFFICERS

There is an essential distinction between the action of *Commanders* and that of *Staff Officers* however capable. It is true that Staff Officers are not mere clerks or messengers. There is often imposed on them the duty of explaining to the immediate executive agents the intention of their Chief, so as to solve ambiguities or remedy misunderstandings, and to create identical views on the situation, especially if it be rapidly changing. But it is outside the scope of the Staff to interfere with the exercise of Command—that is, on their own authority, to urge, or approve, or condemn any particular action on the part of Subordinate Commanders. To do so is to usurp the function of their Chief, and to form a lateral interference with the direct chain of responsibility. Such action commonly leads to a struggle of conflicting temperaments, contrary to all discipline, and tends to produce anarchy in the Command.

Only one man can command. It is true that the nominal Commander has not always been this

one man, owing to some physical, intellectual, or moral deficiency in his character. In that case his action is necessarily guided by a substitute, who will really inspire the operations, but whose influence should always be concealed. Even in this case, however, it is essential that the Chief must rely on *one* man only. Should he turn for advice and guidance to more than one, his action will soon follow divided courses, owing to alternate predominance of contradictory counsels. Counter-orders will unfailingly ensue, with the inevitable result, neatly summed up by the French as “ordre, contre-ordre, désordre.” In War, it is not true that “in a multitude of counsellors there is wisdom.” We know that “Councils of War never fight,” and that the greatest Commanders have always regarded them as a detestable and cowardly subterfuge. Success can never be expected when, instead of the decision of one, the counsels of many prevail.

CHAPTER XXIII

PSYCHOLOGICAL CHARACTERISTICS OF ARMIES

AN Army in action is a special instance of what may be termed a *dynamic crowd*—that is, an assemblage of men united for common action and inspired by the same ideas and desires. Throughout history, certain characteristics have been exhibited by assemblages so united, however differently they were composed, and no matter under what conditions, or towards what ends, they were acting. Popular assemblies in epochs of change, spiritual ebullitions such as have marked the origin, or revival, of religions, political parties, and even juries, boards, and committees, all show similar phenomena. But the most striking instances of dynamic crowds are mobs collected for action. Such mobs have usually worked harm, when they must be called criminal mobs, but have often been violent with good intentions, as when the Paris mob took the Bastille. Other instances of non-criminal mobs actuated by high enthusiasm are those roused for the First Crusade by Peter the Hermit, or that incited by Mark Antony, at the funeral of Cæsar, to avenge his murder.

Of nature akin to crowds are unions of persons holding similar opinions, even when not actually in touch with each other, or physically assembled. Such unions have produced, and will yet produce, some of the greatest changes in history, like the rise of Christianity, the Renaissance, the Reformation, and the French Revolution. In all ages, systems of religious thought have created such dynamic aggregates, often world-wide and endowed with persistent vitality. The most striking examples are the unions of nations and races which form the Mohammedan world, or the Roman Catholic Church.

But a combination of armed men for the purpose of fighting has always been the commonest and strongest form of organized assemblage. Such a combination is the highest example of a dynamic crowd, and has effected the most rapid and striking changes which the world has undergone.

The essential underlying character of a "dynamic crowd" of any sort is that it possesses *religion* in the sense defined by a great French psychologist, as "placing all the resources of the spirit, all the submission of the will, all the ardour of fanaticism, at the service of a Cause, which then becomes the guide and end of all the ideas and actions of the assemblage."

A crowd may be looked upon as a sort of new composite personality born of the union of a number of men whose individual qualities will not by any means represent the character of the crowd they form. The crowd may be said to have a collective soul which will cause it to act in a

way in which the individuals composing it would not, and indeed could not, act. This soul is generally inferior to the average character of the persons forming the crowd, but at times rises to heights impossible to them. Thus crowds have often committed atrocities from which their component individuals would have shrunk, but other crowds have shown incredible enthusiasm and devotion, and performed acts of heroism and self-sacrifice, to which no individual in them could ever have risen singly. Examples of the crimes of crowds are patent in history, but their heroisms also may be found, most of all in the innumerable instances when troops have faced death without flinching, and thereby gained victory for their Cause.

The characteristics of crowds may be glanced at. They will be seen to be analogous to those which animate troops. Crowds act on instinct and are incapable of reasoning, so that they are essentially irresponsible, while very easily influenced by suggestion. Their impressions are extraordinarily infectious, for Man is an imitative animal, and still more so is Man in bulk. Hence, suggestions spread like fire, and impressions and tendencies to action are communicated with the greatest rapidity, for, in a crowd, reason has little influence on the action, and self-concern, so potent in the individual, is effaced in the confidence born from a sense of the power of numbers. So we may note among soldiers at one time the spread of panic, and at another the not less infectious courage due to combination. Both are capable of producing

striking action for harm or for good, and action quite impossible for the individual when alone.

All crowds, even those of animals, have an overwhelming craving to be led. A leader is needed to strike the spark to kindle the mass, give shape to its idea, and instigate its action. A crowd loves to adopt a leader to be its despot, and will be obedient and even servile to him who shows he can command. The leader influences the crowd by three means—*assertion*, *repetition*, and *example*. All these means are necessary to implant ideas in an unreasoning mass, and initiate unanimous action towards their realization. The *assertion* must be concise and simple, and should epitomize the ideas which form the “religion” of the crowd. *Repetition* is necessary to drive these ideas home. Reasoning is out of place, and has the worst effect, for crowds cannot reflect, and are as impatient of appeals to their reason as of opposition to their desires. The *example* of the leader exercises a potent influence. A crowd is easily impressed by his coolness, courage, self-confidence, determination, and vigour in utterance and action, and even by his personal appearance.

Leaders are generally men who are themselves carried away by the ideas they are striving to put in effect, although some have been calculating, cool, and astute. They are generally men of action, and action impresses when reason is unavailing. One quality leaders must have, and that is Will Power. A mere crowd has none, for the will of the individual becomes effaced when once he is united with his fellows, and the will of the leader

must replace it, flashing out from his voice and his bearing, and felt in his words and his deeds. But the crowd will also react strongly on the leader, and may inspire him to a pitch far above his natural scope, but only on condition that the leader has among his qualities and his aims some that are germane to the "religion" of his followers, for the "Soul of the Crowd" to work on.

What has been said of crowds and mobs applies in the main to the organized and trained mob which has become an army. A mass of soldiers differs from a mob mainly in the habits acquired by discipline, the facilities for action afforded by organization, and the ideal of character which their profession, and their very uniform, suggest to them to live up to. The discipline of the soldier, if it is to be worth anything in a crisis, must be so habitual as to be not reasoned, but instinctive. Under the strain of war, whether due to danger or to privation, habits can be relied on when reason fails. Discipline is not only the instinct of obedience, but that of reliance on leaders and comrades, both factors of enormous value in battle. It is this which gives troops the advantage over a mob. Psychologically they are both "dynamic crowds," but the mob is devoid of the higher qualities which discipline has implanted in the soldier, and which the influences of his profession have rendered largely instinctive.

It should be noticed that in crowds, where the individual varieties of character are lost in the "crowd soul," the oldest racial characteristics come out. This is the more so in the moments when

danger inhibits reason, and instinct alone reigns. History teaches us very clearly how persistent these characteristics are in the people as a whole, and they are naturally brought out in a high degree by War. Cæsar tells us that the Gauls "are very courageous and impetuous in the attack," and two thousand years later the "*Furia Francese*" is still their characteristic. A French writer on the wars in Spain talks of the "*Bulldog Ténacité*" of the British, a quality which has been attributed to them for centuries.

The reason for this is clear if we suppose that the crowd possesses the sum of the qualities of its members, for the different individual qualities of each will bulk but little compared to the huge total of the qualities common to all, of which the older and deep-rooted race characteristics will necessarily form a large part.

Thus history shows unmistakably that the military qualities of a nation change but little with time. The conduct of its soldiers in past wars is likely, therefore, to be repeated in future fighting, although organization, training, and leading may differ, and, to some extent, modify the result.

In the case of an Army, the necessity of Will Power in the leader cannot be too much emphasized. It is of far more importance than mere intellect. Will power alone can go far, as we see in the cases of Charles XII. and Blücher, whereas resolution is apt to be "sicklied o'er with the pale cast of thought," where the intellect is more developed than the will.

Some Military Leaders have been energetic and resolute, but wanting in continuity of effort, and little capable of thought and reflection. Of this type were Ney and Murat, amazing in the conflict, heroic in danger, but, in less inspiring moments, failures. These men need a greater man to lead them. Such a man, in whom Will Power and Intellect are both dominant and are equally balanced, constitutes the higher and rarer type of leader. In him the Will Power is more lasting, if less fiery; he can reflect, assume responsibility in cold blood, and carry out long plans in spite of opposition. The rule of such leaders over their followers is not liable to sudden collapse, but often outlives failure or ruin. Of such are those who have changed the face of the world and won undying fame—Alexander, Hannibal, Cæsar, Cromwell, Napoleon—men whose prestige is not buried in their grave, but still exercises over living men an influence hardly less real than during their life.

This prestige, unexplainable as it may be, constitutes the dominating influence of the leader over his following. Built on success and renown, it is made up of admiration, love, and sometimes fear, but is always unreasoned and idolatrous. It is by the domination of prestige that a leader is able to impress his feelings, his aims, and his will on those he leads. The exertions to which Hannibal and Napoleon could compel their men were incredible. A leader is at times obeyed by his followers as the lion-tamer by his lions, although often with as little means of coercing them, or even

of saving himself from their jaws. Nor is the effect of prestige limited to the leader's own following; it is as much felt by his opponents. Napoleon's arrival on a battlefield was, Wellington said, worth a reinforcement of forty thousand men, and many of his successes in war were due to the fact that his enemies were frightened by his name, before they began to fight. Probably only two of his opponents escaped this influence—Blücher, in whom hatred left no place for fear; and Wellington, who said before the Peninsular War that he thought he could beat the French because he was not afraid of them.

The prestige of Hannibal, like that of Nelson, always weakened the resolution of his foes. Dundonald with one ship chased a Portuguese squadron from Brazil to Europe. Drake's very name was an abiding terror to Spain. "Stonewall" Jackson's reputation was a constant alarm to Lincoln and the Federals. Lee's personality was one of the main factors in staving off defeat from the South.

When the crisis of her fate arrives, a country can only pray that a *Leader* may be granted her. History can teach us that England has seldom prayed in vain. Cromwell, Marlborough, Clive, Wellington, the men of the Mutiny, and, above all, the long line of Admirals which culminates in Nelson, were living answers to her prayers.

APPENDIX A

ORIGIN OF MILITARY TERMS

THIS chapter is intended to give an explanation of the way in which military terms—especially those connected with Organization—came to have their present technical meaning. Their derivation and, in some cases, the date of their introduction are given. Many of these terms have been noticed in the body of the text, and their origin mentioned. They are here collected for facility of reference.

It will be noted that most of our commonest military terms are of considerable antiquity, and that they are essentially cosmopolitan words, widespread in use through Western Europe. Most of them were introduced in Italy during the fifteenth and sixteenth centuries.

The terms are arranged alphabetically in four lists :

1. Ranks and Offices.
2. Names of the different varieties of Troops, and of their Units and Formations.
3. Arms and Accoutrements.
4. Miscellaneous.

1. RANKS AND OFFICES

Adjutant: French *adjudant*; Latin *adjutant-em—adjutare*, to assist. An assistant. An office introduced in the English Army in 1660.

Bombardier: from *bombard*, old name of a cannon (*bombo et ardore*, with noise and heat); Latin *bombus*, a humming noise—*ardor*, heat.

Captain: French *capitaine*; Late Latin *capitan-us*—*caput*, head. A chief.

Captain-General: name of Commander-in-Chief till Marlborough's time. Probably taken from the Spanish *Capitan-General*.

Colonel: French *colonnel*; Italian *colonello*, a little column; Latin *columna*. Column-leader.

Cornet: French *cornette*, a horn-shaped flag for Cavalry; Latin *cornu*, a horn.

Corporal: Old French *corporal* (16th cent.); Latin *corporalis*, belonging to the body, *corpus*; or, by confusion with *corporalis*, from French *caporal*; Italian *capo di squadra* or squad-leader, from Latin *caput*, head.

General: *i.e.* general officer, or officer with general command over all troops, and not over those of his own Arm only.

Généralissime: the Supreme Commander of Armies. A term adopted by Richelieu, and used in France to-day.

Lance-Sergeant (or Lance-Corporal): from *lanz pesado* or dismounted lance, superior to the ordinary infantry with whom he had perforce to march on foot after losing his horse.

Lieutenant: French *lieu-tenant*; Latin *locum tenens*. A deputy, of the Captain, the Colonel, or the General.

Major: originally Sergeant-Major (17th cent.).

Major-General: originally Sergeant-Major-General (17th cent.).

Marshal: a farrier. Old French *mareschal*; Low Latin *mariscalcus*; Teutonic *maraschalk*, from *mara*, a battle-horse, and *skalk*, a servant.

Officer: French *officier*; Late Latin *officiar-ius*—*officium*. An office-holder.

Private: *i.e.* a *private* man, not an officer (used from 16th cent.).

Quarter-Master: a *quarter*, *i.e.* one-fourth of a locality, came to mean generally a *district*, and then a *lodging* for soldiers assigned to that district.

Rank: French *rang*; Old German *hrang*, a ring, and later a row, of men.

Sapper: French *sapeur*—*saper*, to dig; Italian *zappa*, a mattock.

Sergeant: Old French *serjent*, *servjent*, or *servient*; Latin *servient-em*—*servire*, to serve.

Sergeants-at-Arms (*Servientes ad Arma*) were instituted by Richard I. during his Syrian campaign as his personal guard.

Soldier: Old French *soldier*; Latin *soldarius*—*solidarius*—*sold-us*, pay—*solidus*, a solid piece.

Staff: what the General leans on—a stick; from Aryan root *sta* = stand.

Trumpeter: French *trompeteur*. [See Trumpet.]

Yeomen of the Guard: Personal Guard of Henry VII. The first regular military organization in England (1485).

2. VARIETIES OF TROOPS, AND THEIR UNITS AND FORMATIONS

Ambulance: French *ambulance*, movable hospital; Latin *ambulare*, to go—*ambi*, around, and root *ba*, go, as in Greek *bainein*.

Army: French *armée*; Latin *armata*, past participle of *armare*, to arm, an armed force.

Army Corps: German *Armee-Korps*, from French *Corps d'Armée*—*Corps* from *corpus*, body.

Artillery: French *artillerie*; Italian *artilleria*, the art of the *artillarius*, or *articularius*, from *artacula*, dim. of *art-em*. Used for *guns* 16th cent.; for the *Arm* 18th cent. [See Chap. XVII., par. 1.]

Battalion: French; Italian *battaglione*—*battaglia* (16th cent.). [See Battle.]

Battery: French *batterie*—*battre*; Late Latin *battere*, beat; Latin *batu-ere*.

Brigade: French (16th cent.); Spanish *brigade*—*brigar*, to brawl; Italian *briga*, a quarrel. Hence a body of contesting troops.

Carbineers: Cavalry armed with the *carabine*. Old French *calabrin*—*calabre*, war engine, from Low Latin *chatabula*; Greek *kataball-ein*, throw down.

- Cavalry: French *cavallerie* (16th cent.); Italian *cavalleria*; Late Latin *caballarius*—*caballus*, a nag.
- Column: Latin *columna*, a column, from *columen*—*culmen*, height—cf. *collis*, hill.
- Command: Old French *commander*, to order; Latin *commendare*, to entrust to one's charge—later, to order; from *cum* and *mandare*, to order.
- Commissariat: from commissary, a person entrusted; Latin *com-mittere*, to commit to.
- Company: Old French *compainie*; Late Latin *companiono*—*cum pane*, with bread, *i.e.* a messmate.
- Cuirassiers: French *cuirasse* (15th cent.), from *cuir*; Latin *corium*, leather.
- Dragoons: from carrying a short musket called a dragon. Italian *dragone*; Latin *draco-n-em*, a dragon.
- Echelon: French *échelon*—*échelle*, ladder; Latin *scala*, step—*scando*, climb.
- Engineer (16th cent.): *engynour* (16th cent.), earlier *engigneor*; Old French *engineur*; Late Latin *ingeniator* (used in 12th cent.), from *ingeniare*, from *ingenium*, whence Engine. [See Chap. XVII., par. 1.]
- File: number of men in depth (1598); a row, from French *file*; Latin *fila*, a thread.
- Fusiliers: men armed with the fusil, a firelock (17th cent.). Latin *foçile*, a flint, from *focus*, a hearth-fire.
- Gentlemen-at-Arms: originally a band of Horse, created 1509; subsequently Court Officers.
- Grenadiers (late 17th. cent.): men armed with the grenade, invented 1594. Spanish *grenada*, pome-granate, the fruit full of seeds, from Latin *granum*, grain.
- Guards: soldiers who guard the Sovereign. Guard, French *garde*, is the Teutonic *ward*, from *war*, to defend, connected with *ware* and *wary*.
- Hussars: Hungarian *Huszar*, from *Husz*, twenty. Every twentieth man served in the Light Cavalry on the Turkish frontier.
- Infantry: French *infanterie*; Italian *infanteria*; Latin *infant-em*, child (16th cent.), *i.e.* one who cannot speak—in, not, *fari*, speak.

Lancers: men armed with the lance. French *lance*; Latin *lancea*; Greek *lonche*.

Line: French *ligne*; Latin *linea*, a line or string—*linum*, flax.

Musketeers: men armed with the Musket, which see.

Ordnance Corps: the R.A. and R.E., which were controlled by the Master-General of the Ordnance, an officer created as early as 1414.

Patrol (late 17th cent.) French *patrouille*: (1539)—*patrouiller*, to paddle in mud—Old French *patoueil*, mud.

Platoon: French *peloton*, a little ball—*pelote*, a small bundle; Latin *pila*, a ball.

Rear: Old French *riere*, behind; Latin *retro*, back.

Regiment: French *régiment*, rule; Latin *regiment-um*—*regere*, rule.

Rifles: a body of soldiers armed with rifles. Rifle is short for rifled gun; to rifle means to groove—*rive*, to tear.

Squad: French *escouade*; Italian *squadra*, a square; Latin *ex-quadra-re*, to square, from *quatuor*, four.

Squadron: from Italian *squadrone*, a large square. [See Squad.]

Train: French *train*; Old French *trahiner*, to trail; Low Latin *trahin-are*, from *trah-ere*, to draw.

Troop: French *troupe*, connected with root of *drive*, German *treiben*, a drove; Italian *truppa*, by some connected with Latin *turba*, a crowd, by a not uncommon process of bringing the “r” before the vowel [cf. *brent*, burnt].

Vanguard: shortened to van; Old French *avant garde*—*avant* is Latin *ab-ante*, from in front. [See Guard.]

3. ARMS AND ACCOUTREMENTS

Accoutrements: French *accoutrement*; *accoutre*—*ad*, to, and *coudre*, from Latin *custos*, keeper.

Ammunition: store for defence. Latin *ad-munition-em*—*munire*, fortify, defend.

Arms: French *armes*; Latin *arma*.

Arsenal: *arx navalis*, naval citadel, or from an Arabic word.

Ball: French *balle*; Old German *bal*, from a Teutonic root found in *bulge*, bole.

Bayonet : French *baïonnette*, from Bayonne, where first made.

Belt : Anglo-Saxon *belt* ; Irish *balt*—from which Latin *balteus*, a belt, probably derived.

Bullet : French *boulet*, a little ball—*boule*, a ball ; Latin *bullā*, a knob.

Cannon : *i.e.* the gun-barrel ; Latin *canna*, a hollow cane.

Carbine : see Carbineers.

Carriage : Old French *charrier*, or *carier*, to carry. [See Cart.]

Cart : dim. of *car* ; French *charette* ; Old French *carete* ; Low Latin *careta*—*carrus*, a car.

Cartridge : corruption of *cartrage* ; French *cartouche*, a charge wrapped up in a cornet of paper ; Latin *carta*, paper.

Cuirass : see Cuirassiers.

Equip : Old French *esquiper*, to equip ; Norse *skipa*, to arrange, shape.

Gun : Old English *gonne* ; Welsh *gwn* ; Gaelic *gunna*. Derivation unknown, perhaps from Old French *mangonel* ; dim. of Latin *mangonum*, Greek *mangonon*, a war machine.

Halberd or Halbard : a long-handled weapon ; *helve* or handle ; *barde*, axe.

Haversack (used in 18th cent.) : from German *haver-sack*, sack for oats.

Helmet : Anglo-Saxon *helm* ; Teutonic root *hal* or *kal*, to cover.

Howitzer : German *hautbitze* (so written by Gen. Wolfe about 1750), older *hauffnitz*, from *haufnice*, a sling. A Czech word of time of the Hussites (15th cent.).

Magazine : storehouse. Spanish *magacen* ; Arabic *makhzan*, storehouse.

Matross : old word for a gunner. German *matrose* ; Latin *matarius*, a man who uses a mat or hammock.

Mortar : called from resemblance to apothecary's mortar. Old French *mortier* ; Latin *mortarium*, from *martulus*, a hammer.

Musket : French *musquet*, from the Spanish, meaning a sparrow-hawk, probably from Latin *musca*, fly, as being the smallest of hawks. First used for the firearm, 16th cent.

Ordnance = Artillery, from the *ordinance* to regulate calibre and size of guns (15th cent.).

Pistol: from the city of Pistoia in Italy, where made (early 16th cent.).

Pontoon: French *ponton*; Italian *pontone*, a great bridge; Latin *pont-em*, bridge.

Pouch: Old French *pouche*—*poche*, pocket; Celtic *poca*, a bag.

Shell: Anglo-Saxon *scell*, a thin covering; Teutonic root *skal*, to separate, peel off; a hollow ball.

Shrapnel: a shell with balls inside, invented by General Shrapnel, British Army (early 19th cent.).

4. MISCELLANEOUS

Base: area on which army relies for supplies and reinforcements. Formed from analogy with the base of a triangle, by the German military writer, Willisen, 1820. Greek *basis*—*bai-no*, go.

Battle: French *bataille*; Italian *bataglia*; Late Latin *battalia*, *batt-ere*, from Latin *batu-ere*, to beat.

Billet: French *billet*, a ticket for quarters; hence the quarters themselves.

Bivouac: German *bewachen*, to watch.

Bugle; short for bugle-horn, the horn of the bugle or wild ox. Old French *bugle*; Latin *buculus*, dim. of *bos*, ox, a bullock.

Camp: French *camp*; Latin *campus*, field.

Colours: first use temp. Elizabeth for military flags, because of their gay colours. French *couleur*; Latin *color*.

Communications (used by military writers in 19th cent.): Latin *communicare*, *communis*, common.

Condottieri: Italian mercenaries. Latin *conductitii*, led men.

Crew: or detachment working a gun, from French *crue*, from *croître*, to grow.

Drum: from Teutonic *trom*.

Fife: Old German *pfifa*, a pipe.

Logistics: French *logistique*; what are now called Staff duties, from *logis*, quarters, *i.e.* the Q.M.G.'s duties.

Order : French *ordre* ; Latin *ordin-em*.

Parade : Spanish *parada*, ready, or adorned, from *parar*, to get ready, to adorn, also to parry ; Latin *parare*, to prepare. Brought from the Netherlands to England in 1625.

Reconnoitre : French, to make oneself acquainted with—*connaître* ; Latin *cognoscere*, know.

Strategy : Greek *strategos*, a general—*stratos*, army—*ago*, lead. The art of the General.

Tactics : Greek *taktike* (*techne*), *tasso*, arrange. The tactical art, or art of drawing up soldiers for battle.

Trumpet : French *trompette*, dim. of *trompe* ; Spanish *trompa*, perhaps from Latin *tuba*.

War : Teutonic *werre*, strife, connected with *worse*, and German *wirren*, confuse.

APPENDIX B

REMARKS ON MILITARY NOMENCLATURE

IN any Science the first step towards 'systematizing' it is to form a definite terminology on systematic lines. Nor is this mere pedantry. Words are the expressions of thought ; without defined terms there can be no clear thinking.

None can have read much, or written at all, on military matters without noticing the unsatisfactory nature of many of the terms used. Few are short, crisp, and definite, like *Troop, Squad, Staff*. Compare these with *Regiment, Division, Artillery*. Confusion also constantly arises from the indeterminate meanings of words like *Commander, Section, Brigade, Unit*.

Other words are cumbrous, like *Medical Services* (or *Officer*), *Mounted Infantry, Ammunition Column, Lines of Communication, Mounted Brigade, Veterinary Services* (or *Officer*). Some single words are urgently needed instead of these.

In British Establishments, simplification would result if there were one word for *Drummers, Buglers, and Trumpeters*, and one for all personnel except Officers. *Dismounted men* is a poor name for men who were never mounted.

The organization of Artillery cries out for some systematized terms. *Field Artillery* includes in foreign armies the batteries of Field Guns, Howitzers, and Horse Artillery, but is generally used for those of Field Guns only. A general word to include guns and howitzers is needed. *Wagon* is used for transport wagons and ammunition wagons, and a single word for the latter is much needed ; the American word *caisson*, or the old English *tumbril*, might be used. A better word is

wanted for *Machine Gun*, which is not a gun, but a rifle. *Divisional Artillery*, a unit of several Brigades under a General, might have a special name. *Divisional Ammunition Column* seems a very long term when writing Orders.

Cavalry and *Infantry* might well be usually replaced by *Horse* and *Foot*. The words *Troop* and *Squadron* might be used without the addition of "Cavalry," as indeed *Company* and *Battalion* without adding "Infantry." It would be convenient if, in the British Service at any rate, the word *Regiment* always connoted Horse, to avoid adding "Cavalry," just as *Battalion* connotes Foot.

Turning to ranks of Officers, the word *General* might be used instead of *G.O.C.* The term *Commander* is used indiscriminately, and might be confined to Subordinate Commanders of Corps and Divisions, leaving *Commander-in-Chief* for the Army Command, with *Supreme Commander* where there are several Armies. A single word for the *Divisional Commander* would be convenient, like *Brigadier* for the Brigade Commander. *Commanding Officer* should always imply the C.O. of a Cavalry Regiment, Infantry Battalion, or Artillery Brigade, and might be rendered, as in French, by the word *Chief*. The word *Captain* does not imply the important and similar functions of the Squadron, Company, and Battery *Leader*, who is often a Major; and the word *Leader* might be adopted. The good old words "Cornet" and "Ensign" might be reintroduced.

D.A.A.G. and *D.A.Q.M.G.* are deplorable titles, as are also *Inspector-General of Communications* and *Commander of Lines of Communication Defences*.

We have *Gunner*, *Driver*, and *Sapper*; why should not *Trooper* be officially used for private of Cavalry?

It would be convenient if the word *Train* were officially used for all the non-fighting Trains.

Now that the whole force of a great nation includes several Armies, it is desirable to have a separate word for the whole *Army*. Perhaps *Host*?

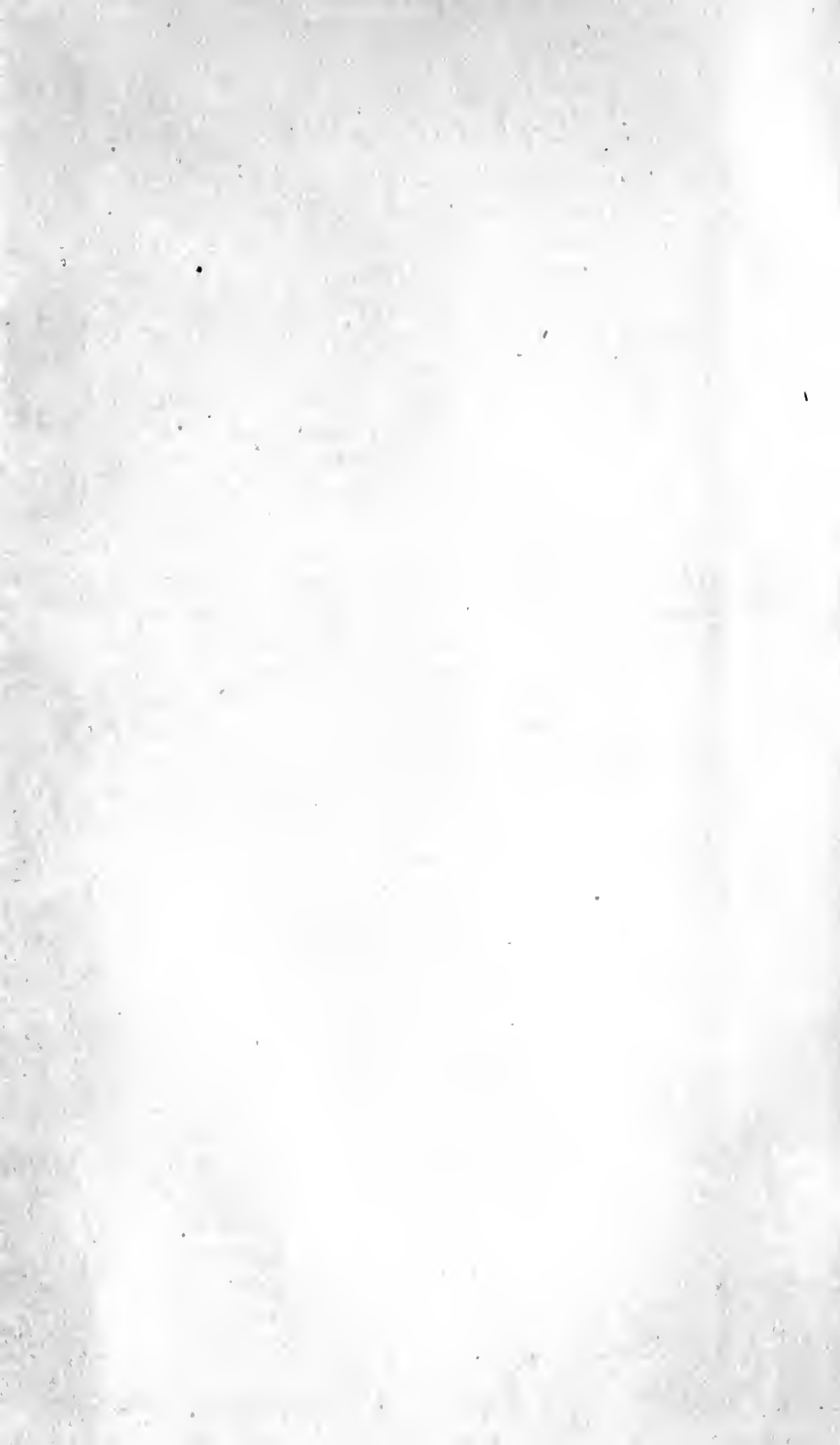
A short word (like *Base*) is much needed for the *L. of C.* and the *Advanced Base*. Perhaps *Rear-Routes* and *Fore-Base* might be used?

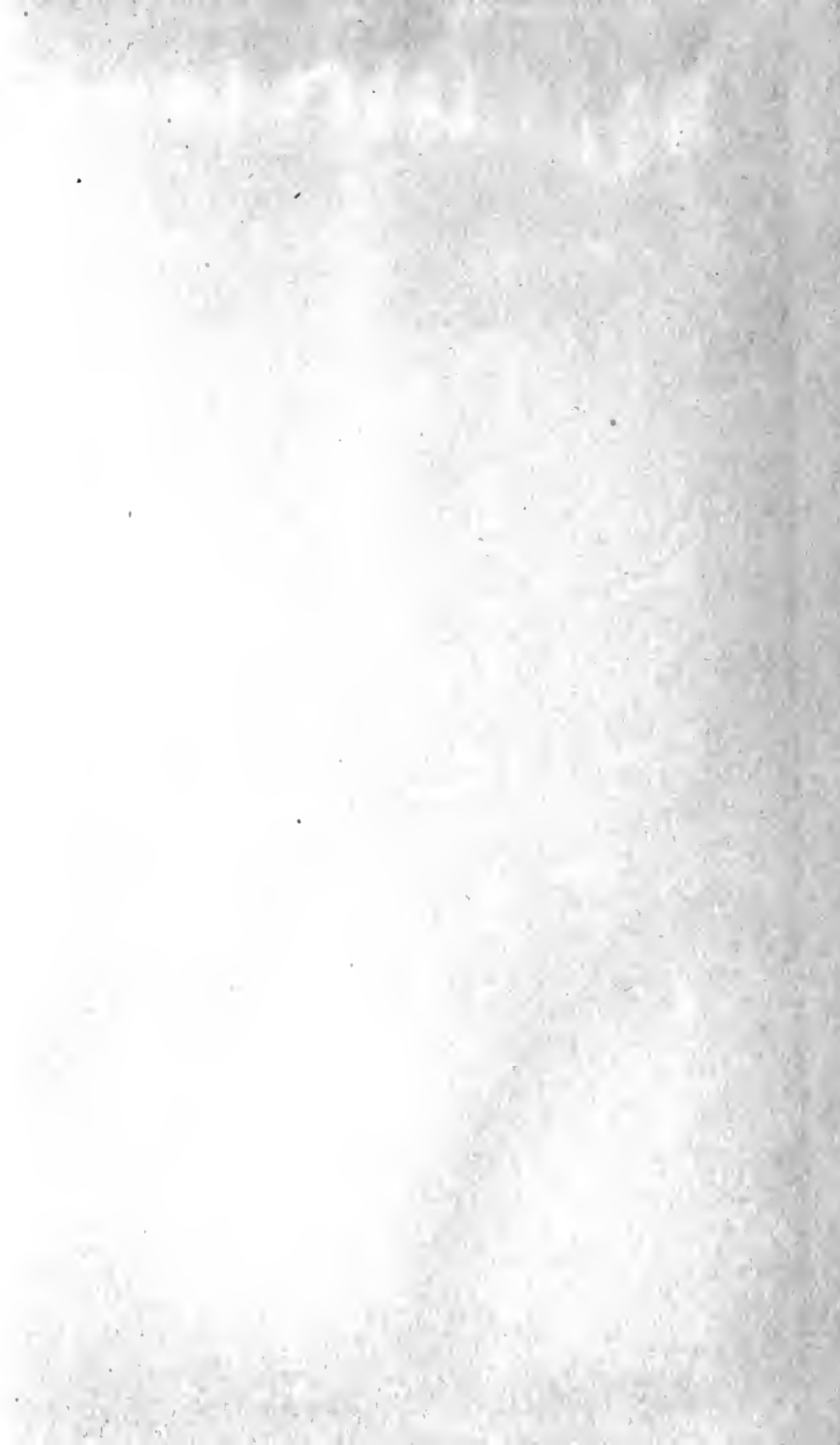
A better word for *Advanced Guard* would be *Foreguard*, on the analogy of Rear-Guard and Vanguard. The cumbrous expression "Commander of the Advanced Guard" might then be replaced by *Foreguard Chief*.

The awkward French word *depôt* (with its accent) might be replaced by the Old English word *stow*, which we find surviving in place-names, where it meant a military depôt during the English conquest of Britain.

The importance of shortening and defining military terms does not rest only on the convenience of writers and readers. The advantage in saving time, and conducing to lucidity, cannot be overestimated when Orders are to be written and read, often under difficulties and in a hurry.

A scientific system of Military Terminology would thus prove of real value in war. The above observations are made in order to call attention to this matter, in the hope that official action may one day lead to a more logical system of military terms.





UNIVERSITY OF CALIFORNIA LIBRARY

Los Angeles

University of California
SOUTHERN REGIONAL LIBRARY FACILITY
405 Hilgard Avenue, Los Angeles, CA 90024-1388
Return this material to the library
from which it was borrowed.

NON-RENEWABLE

ILLI STP

104

FEB -

1994

DUE 2 WASHINGTON FIELD RECEIVED

THE LIBRARY
UNIVERSITY OF CALIFORNIA
LOS ANGELES

UC SOUTHERN REGIONAL LIBRARY FACILITY



A 000 681 776 1



U